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ABSTRACT

This collection of learning activities, appropriate for preschool and kindergarten children, is the second volume of a 2-volume manual which describes a diagnostic method of teaching young children. The activities are organized according to program areas. A description of each activity includes information on its uses, materials needed, and final comments and cautions. Chapter 12, the first chapter in this volume, focuses on large motor and outdoor activities including sand, water and block play. Chapter 13 describes activities using art materials for developing the child's creativity. Activities incorporating paints, playdough, crayons, climbing equipment, books and songs are discussed. Chapters 14 to 19 deal with activities in the following areas: small motor and perceptual motor; language; science; social science; cooking and food preparation; and music. Chapter 20 presents miscellaneous activities which include use of bulletin boards, an exploring table, and photography. The appendix includes all recording forms suggested for use and discussed in Volume I: face sheet, needs and plans sheets, language checklist, social-emotional checklist, and permission forms (medical, field trips, photo). Bibliographies and resource lists are also provided. (CM)

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volume II

SCHOOL BEFORE SIX:
A DIAGNOSTIC APPROACH

revised edition

VOLUME II

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and
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Chapter 12
Large Motor and Outdoor Activities

Introduction

In the section on large motor skills we talked about the importance of giving young children every possible chance to learn to use their bodies effectively and to enjoy active play. (See *Large Motor, Diagnosis and Developing Skills.*) In talking about motivation of learning we also describe how a teacher can make use of the child's natural enjoyment of movement to teach things other than large muscle skills. (See *Motivation and Drives.*) It might be useful to reread both sections occasionally in connection with planning for large motor activities.

In this chapter we describe both activities which are planned especially for active play indoors and out and activities which are less active but take place outside. We have also included here sand, water, and block play, which may be in or out and involve both large and small motor skills, because they did not seem to clearly belong anywhere else.

Obviously many activities which increase large motor skills do not require special equipment temporarily set up by the teacher, but rather involve standard equipment which is always or frequently available. Every outdoor play area should have if possible the equipment described below.

Space to run. This must be free from the hazards of sharp objects, obstacles which children are likely to run into, ditches, ravines, or unfenced streets or alleys. If a hill or slope can be incorporated into the yard this adds the possibilities of rolling and sliding. If a city school is limited to rooftop space or an indoor gym, it may still be possible to have a running area. If not, frequent trips to a park or vacant lot should be planned.

Tricycles. It is possible to have a nursery school without space for tricycles and wagons, but they provide such a wonderful outlet for energy as well as a tool for role playing of many kinds that they seem almost essential. Though not standard for kindergartens, many teachers find them valuable here too if storage space can be arranged. In either case tricycle traffic should be planned so that it does not interfere with other play areas, and clear safety rules must be made and observed.

Climbing equipment. Walking boards, balance boards, sawhorses, and wooden blocks are basic items. They can be purchased or built by parents. Expensive wooden blocks can be replaced by liquor box blocks for some uses. (See *TTT-4, Liquor Box Blocks*.) It is also desirable to have some kind of climbing house, dome, or gym. There are a wide range of types available depending on age of the group and budget. One very good buy is a geodesic Playdome which is light, inexpensive, and lots of fun. Avoid equipment which is too high for the age group you are working with. Traditional grade school playground equipment, slides, or swing sets are dangerous and limited in usefulness. Climbing equipment should never be placed on a hard surface. Outside there should be sand, grass, or rubber safety matting (ideal but expensive). Inside cheap polyfoam pads (available by the foot from mail order houses) can be used to cushion falls.

Sand area. Sand outside is a high priority item, especially for the youngest children. A sand or digging area larger than the traditional sandpile is wonderful. However, if animals are a problem, the sand area may need to covered. Heavy black plastic and stick-on snaps (to be attached to snaps pounded into the wooden edge of the box) make a good cover for a sandbox.

Other outdoor equipment is limited only by space, money, and imagination. If short on the first two, make use of the latter. See the activities listed below and go on from there. Just be sure that your innovations are safe--no sharp or rough edges; unstable structures; or places where children can get a hand, foot, or head stuck.

In some play yards, the problem is not space, but the fact that the yard must be shared with older children who come at other times of the day, or that the yard is used on nights and weekends without supervision and vandalism is a problem. In this case, a cart on wheels to hold blocks, boards, and sawhorses is a help. If there are funds available for climbing equipment, however, it may be possible to have more or less indestructible, permanent equipment left outside for the use of everyone who comes to the playground. Some very innovative playgrounds have used round logs, square cut timbers, and metal to devise permanent obstacle courses, climbing platforms, slides, etc. Very interesting though expensive equipment of this kind is also available commercially.

Indoor large motor equipment is also available. Unless a school is located in a very warm, dry climate or is lucky enough to have sheltered outdoor play space, it is good to have some large motor activities always available inside. Community Playthings is an excellent source of folding climbing equipment and large-scale riding toys. A rocking boat which turns over to make a set of stairs is also a good investment, available from most preschool supply houses. It is almost a must for the youngest children.

In schools with enough space a climbing balcony can be built into one side of a playroom. This provides a protected area above, usually reached by stairs and a ladder, sometimes with a slide down. The upper area and the space below can be used for all kinds of role playing, and is useful for storage of equipment overnight or on weekends if the room is to be used for other purposes. They also provide places where children can go to be a little alone from the group.

Limits on the use of the balcony are easiest to enforce if stairs, ladder, and slide can be hinged up at times when the upper space is "off limits."

LM-1 Obstacle Course[1]

Uses:	Large motor Social-emotional (taking turns) Conceptual (memory, qualities of movement)

Description: An obstacle course consists of a number of miscellaneous pieces of equipment or objects laid out in such a way that the child goes from one to the next and practices a variety of motor skills in the process. For young or overly cautious children it may be very simple, consisting for example, of boards of various widths laid directly on the ground or an inch or so off the ground, something to crawl under or through, and a sawhorse to climb over. For the most advanced children it could be quite long and involved. The path might lead over the horizontal ladder, under a series of sawhorses of decreasing height, over the top of the junglegym and could involve swinging on a rope and jumping from a box. The exact design depends on the space and equipment available and the level of the children. It should not be permanent, but put together only occasionally or changed frequently. Children may often want to make up their own.

This activity is excellent for helping children learn to control their bodies, but any obstacle course can also be used to teach concepts. For teaching prepositions and qualities of movement and for giving practice in remembering, tell a child, for example, "Hop to the barrel, crawl through it, and slide down the board." If his memory span is briefer or longer than three commands, there could be fewer or more parts. The directions should be varied for each child.

As a variation, each child decides on his own path, and says where he is going.

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[1] See also *Obstacle Course, Directions for Making.*

Materials: Sturdy, movable playground equipment such as boards, hollow blocks, balance beams, sawhorses, etc.; stationary playground equipment; cardboard boxes or barrles with ends cut out; and chalk.

Comments or Cautions: When only a few children are exploring the obstacle course, few rules will need to be set. With more children or with careless or aggressive children, close supervision will be necessary as well as rules about the direction of movement and distance between children.

LM-2 Balance Beam

Uses: Large motor
Conceptual (qualities of movement)

Description: Use a six-, four-, or two-inch board, or a commercial balance beam depending on the skill of children in the group; or all can be available at once. (See *Obstacle Course.*)

When a child is able to walk across a beam of a given size without difficulty, add variations to make the task more difficult. Suggest that he walk backwards or sideways, step over objects placed on the board, walk on tiptoes, walk slowly or quickly, walk holding a heavy object in one hand or with a bean-bag on his head. The board can also be tilted or raised off the ground to make the task more difficult. If the board is somewhat flexible, children often enjoy jumping on or along it for springboard effect.

Materials: Balance boards or beams and objects to step over, carry, and balance.

Comments or Cautions: Balance boards are often used as part of an obstacle course, and there seem to be some indications that learning to gain better control of his large muscles may help a child in many other ways. In addition, this is a favorite with many active children. Therefore it seems desirable to use it much more frequently than we commonly do. Using the balance boards alone rather than as part of an obstacle course is often possible as an indoor activity and can be more frequently available to children than a more elaborate obstacle course.

If the board is placed high off the ground, a teacher must be available for help as needed; and the surface underneath must be sand, grass, or a mat.

LM-3 Seesaw

Uses:
Large motor
Social-emotional (cooperative play)
Conceptual (weight and balance)

Description: A balance board and sawhorse can be purchased or made for the play yard. One child can sit on each end of the board. The children can be helped to understand the idea that the same weight on each end of the board will balance. The teacher could take part in this activity by sitting on one end of the board and the children could see how many of them it would take to balance the board.

Materials: Sturdy plank and low sawhorse.

Comments or Cautions: *This activity should be closely supervised by the teacher. Watch that children do not jump off unexpectedly. Keep the center of gravity low so children do not hurt themselves if they fall off. A soft grassy spot would be safer than blacktop.*

This activity can be related to use of the small balance in the classroom.

LM-4 Walk on the Line or Step on the Squares

Uses:
Large motor
Perceptual-motor
Social-emotional (following directions and taking turns)
Conceptual (line quality, colors, backwards, forwards, sideways, two-dimensional forms, qualities of movement, and sizes)

Description: This game is a kind of two-dimensional obstacle course in which children try to walk on lines or step on spots on the floor. Like three-dimensional obstacle courses, there are many possible variations depending on the purposes which the teacher wants it to serve. Some examples are described below.

Lines can be drawn with colored chalk or colored tape (the former must be frequently redrawn if the activity is inside; on rough concrete or blacktop they last longer). A line can be wide or narrow, straight, curving or zigzagged, going around equipment, or even turning back on itself like a maze. Or there can be two parallel lines, one for each foot.

In a stepping-stone game children can walk on hollow blocks, colored paper cut into geometric shapes, free forms, or footprints. Forms can be varied so that children are told to step just on the red ones or just on the round ones; children who are learning left and right can be told, for example, to step on the green ones with their left foot and the red ones with their right foot. (In these cases be sure stepping stones are close enough together so that the instructions are physically possible for the children to carry out.)

Again with the oldest children who are learning letters or numbers, a variation might be, "Find the number three and jump on it."

Motor and balance skills as well as concepts may be emphasized by telling children to walk backwards, sideways, on tiptoes or heels, very fast, or very slowly.

Materials: Chalk, paper, tape; or blocks and boards.

Comments or Cautions: The activity using chalk lines may follow the reading of Ezra Jack Keats, *Whistle for Willie*.

Most of the time children could make up their own directions or set up the courses themselves after they have the basic idea.

Children will enjoy frequent presentation of this activity if it is varied and if worn paper is replaced as often as necessary. They soon will lose interest if the same torn, dirty paper squares remain on the floor week after week.

LM-5 Large Packing Cartons

Uses: Large motor
Social-emotional (role playing and privacy)

Description: Large cartons used for packaging such items as chairs, refrigerators, and filing cabinets can be obtained from local stores or contractors. Remove all wire staples and let the children find their own uses for the boxes.

Suggestions such as cutting doors or windows may be made; and props for house, boat, airplane, or rocket ship play may be available. If both ends are removed, these are excellent for rolling inside. Smaller openings may be made in each end for crawling through. If the children wish, they can be painted. A carton is also excellent for a hiding place for the child who needs occasional peace and quiet.

Materials: Large cardboard packing cartons; pliers or screwdriver to remove wire staples; sharp knife for openings (for teacher's use only); and crayons, magic markers, or paint for decoration.

Comments or Cautions: When children are rolling inside of cartons, it seems to be tempting for another child to kick or jump on the moving object; and this must be discouraged. Occasionally some children's first response will be to try to destroy the boxes; they can be told, "These boxes are for playing in." One-way traffic may need to be enforced if children are crawling through a series of boxes.

LM-6 Cardboard Barrels

Uses: Large motor
Conceptual (prepositions and three-dimensional form of cylinder)

Description: Large, heavy cardboard barrels which bakery supplies or soap are packaged in make excellent playground equipment. A child may get inside and roll across the playground or gym. (Standing upright it may be used to throw balls into or to store sand toys, balls, etc.) Both ends may be removed so that the children can crawl through the barrel. It may be placed on a foundation or wedged with bales of straw to hold it in one place. The teacher may use the words "through," "inside," "into," and "over" appropriately as the children use the barrels.

Materials: Heavy cardboard barrels from bakery or laundry and bales of straw as braces, if desired.

Comments or Cautions: *Be sure barrels are thoroughly clean before using. Areas of use need to be defined and necessary limits established (especially in teacher's thinking). Direct children so that they go toward the fence--not toward swings, stairways, etc. Show children where to place fingers to avoid pinching. The number of children will need to be limited.*

Some barrels come with snap-on lids which cannot be opened from the inside. To avoid trapping a child inside, discard lids or remove fasteners.

LM-7 Jumping[2]

Uses: Large motor
Conceptual (ways of moving)

Description: Children enjoy a variety of jumping activities, but can hurt themselves if they are not helped to be realistic about heights which are safe to jump from. The teacher might suggest or set up the following jumping situations, keeping in mind the size and skills of the children: just jumping around the room or yard on two feet or on one foot (hopping); jumping down from objects of gradually increasing height, such as the bottom step of the stairs, the end of an obstacle course, or an adult-size chair; jumping over objects such as chalk lines, pieces of paper, hollow blocks, or balance boards, either from a standing position or running and jumping.

Materials: Any safe, sturdy object which will not be damaged by being jumped off or over.

Comments or Cautions: *Be very sure that an object from which a child is jumping will neither tip over nor slide out from under him. To check this keep a hand or foot on the object while children are jumping until you are sure that it is stable. For jumps of any height have a soft surface such as grass or a tumbling mat or the sand pile to land on.*

If children jump from a step or a chair, it should be emphasized that these are to be used for this purpose only during the "jumping game." Otherwise there may be real problems in taking a group of children down the stairs; or children might jump off objects at times when it will disrupt other activities.

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[2] See also *Jumping, Testing.*

LM-8 Raking and Jumping in Leaves

Uses:
Large motor
Social-emotional (cooperative play)
Conceptual (plants, seasons, and tools)

Description: In autumn when the leaves begin to fall, take rakes onto the playground or to the park and let the children make large piles of leaves to jump into from the ground or from a safe height. Many children might like to rake a pile of leaves of their very own and use wagons, wheel barrows, etc. to transport them from one place to another. At the end of the season children can help yardmen with actual disposal of leaves.

Materials: Small wooden or bamboo rakes; a stool, bench, or platform to jump from; and wheel barrows, wagons, etc.

Comments or Cautions: *Be certain that rakes are wooden and without sharp points or edges. This activity should be carefully supervised so children do not jump on top of one another. Check to be sure that there are no sharp objects in leaves, e.g., metal rakes left by adults.*

This activity, which comes early in the year, is often a good way to involve the shy, quiet child in parallel play.

LM-9 Raking and Jumping on Straw

Uses:
Large motor
Conceptual (plants and farms)

Description: Place a bale of hay or straw in the corner of the playground. It can be used for climbing on and jumping from. When the twine is cut, the hay or straw can be used for raking and jumping in. Keep it within a reasonable area. Some children might use the area for sliding, bird's nests, or a house of their own. (Bales used in the winter against trees as protection for sliding can be used for this purpose in the spring.)

The teacher can discuss where hay comes from (grown as grass and dried to make hay), the difference between hay and straw, and the animals that eat it, if the children seem interested. In the late spring the children might make their own hay by collecting long grass left in the field after mowing and drying it in the sun.

Materials: Bale of hay or straw and bamboo rakes.

Comments or Cautions: *See cautions for LM-8, Raking Leaves. Straw may also be slippery.* If it is not feasible to have a bale of hay at school, this experience might be included in a trip to a farm, if there is plenty of time and a very cooperative farmer.

LM-10 Playing in an Open Meadow

Uses: Large motor
Conceptual (meadow, plants, seeds, seasons, geography)

Description: If there is a meadow near the school or within busing distance, children may simply enjoy the experience of having a large area for running, as well as learning about the plants and insects that live there.

Blowing dandelion seeds or milkweed pods and collecting nature objects might be part of the trip. The teacher might want to take along balls, frisbees, and hoops for the children who seem to want some structure; but they should be free to run and explore if they prefer. Children might bring along kites which they have made. (See *A-38, Kites.*)

Materials: Balls, frisbees, and hoops, if wanted.

Comments or Cautions: Teachers who have worked with city children have found that running in an open field is a new and at first a frightening experience for some children. They may need to stay near the teacher until they feel comfortable. Explain changes in routine ahead of time.

Be sure to set and enforce limits of running area carefully and to have an adequate number of adults to cover. Check area ahead of time to be sure it is free from such hazards as barbed wire, broken glass, tin cans, etc. (See *Misc-5, Field Trips* for other cautions.)

LM-11 Outdoor Snow Play

Uses:	Large motor Social-emotional (responsibility and interaction with children) Conceptual (seasons, weather, qualities of movement, temperature, and tools)
Description:	With very few suggestions from adults, children enjoy running, rolling, swimming, and jumping in the snow. They also enjoy looking for animal tracks, making their own tracks and paths, and making angels and other designs in the snow. They may pack damp snow into buckets or cardboard containers and dump the forms out. If there is a safe hill, they may slide on inflated inner tubes, cardboard boxes, or trays. (Sleds are generally not safe for a group of young children.) Making a snowman is probably too much of a project for the children alone, but it is a good activity for interaction with a parent or a big brother or sister. However, children do enjoy rolling up balls of snow themselves if the snow is of the right consistency. If a section of snow is packed down hard, children may draw on it with colored chalk. Diluted food coloring may be used with a medicine dropper to paint on the snow or put faces on snow angels.
Materials:	Warm clothing, extra mittens, and a place to dry clothing; bamboo rakes, plastic shovels, and buckets; inner tubes; chalk; and small snow shovels.
Comments or Cautions:	*In buying snow shovels, be sure that they do not have sharp corners. Supervise use carefully to prevent children from throwing snow over their shoulders or hitting someone behind with the shovel.* *Be aware of sharp objects which may be covered with snow. Protect children from sliding into trees, corners of buildings, or equipment by placing bales of straw against them. Use judgment as to when the slope has become too icy for safe sliding. Watch that children do not become too wet and cold.*

Use appropriate books such as *The Snowy Day* by Ezra Jack Keats; *White Snow, Bright Snow* by Alvin Tresselt. For other snow-related activities, see *S-15, Hot and Cold.*

LM-12 Pulling Equipment with Ropes

Uses:

Large motor
Small motor
Social-emotional (cooperative play and problem solving)
Conceptual (weight, inertia, transportation, and wheels)

Description: Clothesline rope is useful for tying wagons and bikes or other pieces of equipment together. Many children can learn to tie the knots themselves. Pulling a "load" behind a tricycle develops large muscles and adds the possibility for creative play and cooperative interaction with other children. Older children can experiment with pulling sledges to learn how wheels make work easier.

Materials: Pieces of clothesline rope, tricycles and wagons, oblong pieces of wood with holes for ropes (to use as sledges), interesting props such as workmen hats, and materials and gadgets to be pulled in wagons.

Comments or Cautions: Wheeled objects need to be kept on quite level surfaces and limits must be set as to their use. Play involving ropes *must be very closely supervised, and ropes should never be left where children from the class or other children using the playground can get them when an adult is not there.*

LM-13 Stunt Mat or Mattress

Uses:

Large motor
Social-emotional (taking turns and creativity)
Conceptual (ways of moving)

Description: Provide a gym mat or a discarded mattress to jump and do tricks on. Children can roll, turn, do somersaults, or just "tumble" and fall. Oldest children can try to stand on their heads. The mat is also useful at the end of an indoor slide or under a turning bar for safety.

Materials: Gym mat, clean discarded mattress, or a polyfoam pad.

Comments or Cautions: This activity should be available in a space or at a time when it will not be disruptive to others. The number of children using the mat at one time should be carefully limited. Keep activity going in one direction.

LM-14 Gymnastics

Uses:

Large motor
Social-emotional (following directions)
Conceptual (prepositions, ways of moving, body parts, memory)

Description: Most children have seen exercises being done on television programs and enjoy trying to do them in unison. The teacher tells the children who would like to try exercises to stand in front of her (at least two arm's length between each two children) and to do as she does. She then starts out slowly with very simple exercises, demonstrating and giving the directions verbally as she does so.

As well as developing motor skills, the teacher's directions can teach concepts of body parts and prepositions. For example, the teacher might tell children to lean forward, clap hands over their heads, step toward the wall, touch knee to forehead, or stand on left foot (for older children who are learning left and right). She can add and improvise as long as the children's interest lasts.

Later as a variation the teacher can give directions only to see if the children can follow without a model. Children can take turns being the leader.

Materials: Space, indoors or outdoors.

Comments or Cautions: This activity is more suitable for fours and fives than threes and should always be presented as a free choice situation. We found that older four-year-old boys loved it, and it served as a great release of energy and tension on rainy days.

LM-15 Move as the Animals Move

Uses:	Large motor Social-emotional (dramatic play) Conceptual (animals and qualities of movement)
Description:	The teacher whispers in a child's ear suggesting the movements of an animal. She may use a specific word, such as "wiggle," or simply say "Move like a snake," letting the child interpret the animal's movement for himself. This will depend on whether she is more interested in using the experience for concepts or for creative movement at that particular time. The child then tries to mimic the movement while the other children try to guess the animal. At first pictures of the animals should be visible to help the children guess. Later the teacher could suggest a child look at a set of pictures and choose the animal and movement he wishes.
Materials:	Pictures of animals, animal puppets, or toy animals; and a bulletin board or flannelboard to show the animal pictures.
Comments or Cautions:	To avoid frustration if the other children cannot guess, the teacher can give hints such as "It's an animal without arms or legs." (snake)

LM-16 Shadow Play

Uses:	Large motor Social-emotional (cooperative play) Conceptual (qualities of movement, relative size, body parts, sun and shadows, time, seasons, astronomy, and linear measurement.)
Description:	On a sunny day read or tell a story about shadows; then have the children watch their shadows and see what they can make them do (run, jump, hop on one foot, etc.). For the most mature children the activity can be repeated at the beginning and end of the session, letting the children draw around each other's shadows with chalk and measure them to see how the size changes; or the teacher may outline a shadow with chalk on the sidewalk or with crayon on brown paper taped to the wall.

Interest may be stimulated by using an electric light or large flashlight in a darkened room, to make either total body or hand shadows. The teacher can point out how the size of shadows changes as the child moves away from or toward the source of light.

Materials: Flashlight, floodlight or sunshine; brown paper and paint; and books such as *What Makes a Shadow* by Clyde Bulla.

Comments or Cautions: Space is needed so that children do not bump each other in the active portion of the play.

LM-17 Jumping Rope

Uses: Large motor
Social-emotional (taking turns and interaction with other children)

Description: Use a lightweight rope about ten feet long, swung by two teachers, one teacher and a well coordinated child, or a teacher and a tree. Let children take turns jumping over the rope as it is swung slowly back and forth. At the beginning do not expect the children to run in, but start the rope swinging as they are standing in the middle. Eventually some kindergarten children, especially those who have practiced with older sisters or brothers at home, may be able to jump when the rope is swung over their heads; but this is too difficult for most five-year-olds.

As a variation simply hold the rope steady and let children run and jump over it, gradually increasing the height.

Materials: Rope.

Comments or Cautions: Many children seem to enjoy this activity much more than one would expect even when the rope is just barely moving from side to side. Part of this may result from the feeling that they are doing something that "the big kids" do. However, it is very important to keep the difficulty of the activity paced so that the least coordinated children do not experience failure.

It is best to jump rope on a grassy area to avoid skinned knees.

LM-18 Inner Tube Play

Uses: Large motor
Social-emotional (cooperative play and privacy)

Description: Children can roll inner tubes down a hill and run after them or have someone catch them, and slide down hills on them in winter. They can stack several tubes around themselves or friends for privacy, or use them for many kinds of dramatic play, as boats, houses, or swimming pools.

Materials: Inflated inner tubes and outdoor or large indoor space.

Comments or Cautions: Inner tubes are safe, quiet, easy to store, flexible in use, and easy for children to handle.

For chasing them down hills or sliding, be sure space at the bottom of the hill is free from obstacles; or make trees, equipment, etc. safe by placing bales of hay against them.

When storing tubes in summer, store in a cool place and leave partially inflated.

LM-19 Rope or Tire Swinging

Uses: Large motor
Social-emotional (taking turns)

Description: A sturdy rope is tied to a strong tree branch or overhead bar. The end of the rope hanging down to within the child's reach is knotted so that he can hang on tightly. If children are strong enough to climb the rope, several knots may be made. A rubber tire swing can also be hung in the same way.

Materials: Strong rope, a secure place to tie rope, and a rubber tire. Commercial units which can be installed in doorways are available for inside use and are easily set up and removed.

Comments or Cautions: *Plenty of space is needed. Children should be warned to stand back when the rope or swing is in use. This kind of swing allows flexibility and avoids the problems of hard swing seats bumping another child.*

LM-20 Crossing the River

Uses:
Large motor
Social-emotional (listening to directions and taking turns)

Description: Draw two wiggly chalk lines on the floor or sidewalk to look like the contours of a river bank. An alligator could also be drawn between them. Start the lines about six inches apart and increase as you see fit. Call out the children's names one or two at a time to jump over the river and avoid "falling in." Emphasize, "Jimmy jumps *over* the river" as each child jumps. Start the children at the narrowest part and move them to wider parts.

As a variation suggest that the children make block or board bridges over and sometimes say, "Walk over the bridge." Some bridges can be very narrow (from unit blocks) and require careful balancing.

Materials: Chalk and blocks or boards.

Comments or Cautions: Children can serve as teacher in this game when they understand how it is played. *Be sure to allow space to avoid collisions with other activities and limit the number of children playing.* (If there are overly imaginative or fearful children in the group, leave out the alligator.)

LM-21 Bean-Bags

Uses:
Large motor
Perceptual-motor
Social-emotional (cooperative play, taking turns, and relationship with teacher)
Conceptual (size, shape, color, texture, color, number, and patterns)

Description: Bean-bags can be used in a variety of ways. Children can toss them to each other or to an adult. Bean-bags can be thrown into a box, basket, or a taped circle or square on the floor. When there is such a container, a series of tape or chalk marks on the floor can indicate the position for the child to stand; and he can move backward as his skill improves.

A simple relay game may be played by having one child throw the bean-bag and the next retrieve it.

Some older children can make their own bean-bags. The teacher sews pieces of cloth together and the children fill the bags and sew up the open side using an overcast stitch. (Put beans into plastic bags first and fasten to keep them from spilling during the sewing process.) To provide an experience with measurement or weight, let children measure or weigh a certain amount of beans for each bag. (See *TTT-13, Making Bean-Bags.*)

Bean-bags made in varying sizes, shapes, colors, or textures can be used to teach these concepts. For example, the teacher or a child could stand in the center of a circle of children with different bean-bags and say, "Throw me the red bag," or "Throw me the scratchy bag."

Materials: Bean-bags, box or basket, and tape or chalk.

Comments or Cautions: For a handicapped child or one with poor motor coordination, a bean bag about 8" x 10" is easier to catch and throw than a ball.

LM-22 Ball Play[3]

Uses:
- Large motor
- Perceptual-motor
- Social-emotional (taking turns and social interaction)
- Conceptual (fast, slow, hard, easy, roll, bounce, throw)

Description: Have available balls of various sizes and weights to use in a variety of ways. These should be available for free play outside and for more organized play inside at certain times. Below is a list of various ways in which balls can be used, roughly in order of difficulty. (However, children enjoy simpler forms of play even when able to do more difficult ones.)

Ball rolling. One or more children sit on the floor with legs spread out and the teacher rolls the ball to one child who rolls it to another child or back to her. As they gain skill, go from larger to smaller balls, and eventually leave the children to roll to each other.

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[3] See also *Ball Play, Testing Skills* and see appropriate sections of *Large Motor, Diagnosis and Developing Skills*.

Free ball play. Using a medium-size ball outside, children freely throw the ball back and forth to each other. At the beginning they will rarely be able to catch it, and most of the time will be spent in throwing and chasing after the ball. The only organization of this play is to be sure that all children playing have a chance at the ball. Often one child alone will just want to throw and chase the ball; if there is a blank wall available, the ball can be thrown against the wall.

Catching. Catching is much harder than throwing and at the beginning an adult who can toss the ball accurately to the child is necessary for practice. A medium-size (six- to eight-inch) ball is easier than either smaller or larger ones, and at first the child can catch more easily if the ball is bounced once from a short distance. Later it can be tossed directly from a longer distance and with greater force. Often the teacher will need to make suggestions as to the way in which the child might hold his arms, etc. If several children stand in a line or circle the teacher can help several at once.

Kicking. For kicking practice a large clear space is necessary and also close supervision at first, since even a small child can kick a ball with enough force to break windows or hurt another child. Start with a relatively large, soft ball and emphasize trying to make the ball go in a certain direction (between the two trees) or to another child rather than how far the ball can go. Once children learn the basic safety rules, kick ball can be relatively free; but one should discourage children who want to play "football" as they have seen it on TV. A child who has trouble in connecting with the ball can be given practice in kicking the ball while it is stationary before he tries to kick a moving ball.

Miscellaneous. If creative ball play is encouraged, children will think up many uses of their own. These might include such things as trying to roll the ball down the inclined board on an obstacle course, letting the ball go at the top of a hill and seeing where it goes, tossing a lightweight beach ball into the air to see how high it will go, playing with small rubber balls in the water to study floating and sinking, etc. (See also *IM-25, Bowling* and *IM-26, Basketball.*)

Materials: Safe rubber or plastic balls varying from two or three inches to twelve inches.

Comments or Cautions: Specific cautions have been noted above.

Generally nursery schools and kindergartens do not have enough balls and do not use them frequently enough, probably because they can present hazards if simple rules are not enforced. However, they provide such great opportunities for motor and social development that they can be used almost daily. Use volunteers or older children to help less skilled children when teachers do not have time.

LM-23 Frisbees

Uses:
Large motor
Perceptual-motor
Social-emotional (initiation of contacts with other children)

Description: Children are given commercially made frisbees (preferably lightweight ones) or plastic coffee can lids to throw. Very young children will just use them to throw, run after, and throw again. The most mature children will often be able to catch as well as to throw them.

Materials: Commercial frisbees or lids from coffee cans, either plain or painted and decorated with decals. (Lids from three-pound cans are best, but one- and two-pound can lids also can be used.)

Comments or Cautions: Lids are not heavy enough to hurt anyone, but frisbees can cause a painful bump.

Be sure children have adequate space so that they do not run into other children while throwing or catching.

LM-24 Horseshoes or Quoits

Uses:
Large motor
Perceptual-motor
Social-emotional (taking turns)

Description: Use cheap, commercially made rubber horseshoes or circular rope quoits with either wooden posts pounded into the ground or commercial free-standing posts. Let children take turns throwing horseshoes or quoits onto the posts, standing as close as necessary to be successful (even if they need to be practically on top of the posts). As they become more skillful, they can move back. Do not try to make it into a scoring or winning game at this age.

Materials: Commercial horseshoes or quoits.

Comments or Cautions: Especially with rubber horseshoes, which bounce off the post, this game is more difficult than it looks. It should probably be introduced only when you have a group of older children who have excellent large motor skills and who need to be challenged by something new. Try it with children who are already "hot shots" at ball and bean-bag throwing.

LM-25 Bowling

Uses:
Large motor
Perceptual-motor
Social-emotional (taking turns)

Description: Plastic bowling pins and ball are available in cheap sets at many toy stores.

An ordinary rubber or plastic ball and plastic detergent bottles can also be used. In the latter case put a little sand into the bottles to make them somewhat more stable; experiment for best results.

As with most games for children under six years of age, rules should be kept very simple with no attempt to keep score or establish a winner. The main requirement is that children follow some procedure for keeping track of whose turn it is and who is to set the pins back up. Usually after help from the teacher the first few times, kindergarteners can play the game without much supervision.

Materials: Bowling set, commercial or made from plastic bottles.

Comments or Cautions: This game can be played on a smooth surface outside or inside if there is a space where others will not be disturbed. Inside it is better if children throw toward a wall or other obstacle to keep the ball from rolling into other play areas.

LM-26 Basketball

Uses:
Large motor
Perceptual-motor
Social-emotional (taking turns)

Description: Take an old bushel basket or round plastic clothes basket and cut out the bottom. Fasten it to a tree outside or a wall inside. Let children take turns throwing a medium-size ball into it.

Experiment with the height which is best for the group. Very young children may do best starting out with the basket on the floor, in which case a large waste-basket may be used rather than the bushel basket. Then gradually raise the height until the children are able to hit it most of the time, but not always. If this becomes a popular game, install hooks at two or three heights on the tree or the wall so that the basket could easily be put up and taken down.

Materials: Bushel or clothes basket, hooks, and a ball. (The ball should not be a regulation basketball, which is too heavy for most young children; a six- to ten-inch rubber or plastic ball is better.)

Comments or Cautions: If this activity is to be used inside, it obviously requires clear space without breakable objects and away from other children's play. It can be an activity for just one child or for several, in which case teacher supervision will probably be necessary to avoid arguments, at least at first. Do not try to introduce actual basketball rules at this age.

LM-27 Group Games

Uses:
Large motor
Social-emotional (interaction with other children)
Conceptual (sequencing)

Description: Most outdoor play will always be of the free choice, individual, or small group variety. However some four-year-olds and most fives enjoy an occasional simple group game. It is also useful to have the children familiar with a few such games if the teacher finds herself with time and space, but nothing for the children to do, for example on arriving at the park and finding all the equipment in use. Some favorite singing games are Ring Around the Rosie, Looby-Loo, Hokey-Pokey, Mulberry Bush, Did You Ever See a Lassie, Picking up Paws Paws, and Go In and Out the Windows. Children also enjoy chasing games such as Duck Duck Goose, Charlie Over the Water, Whistle Stop, All Squirrels Change Trees, and Red Light Green Light.

We have not included directions because of space limitations. Most grade school age children can help demonstrate, or directions may be found in books of activities for older children.

One game called "Travel Dice Game" is worth outlining because of its value in teaching counting to very active children. This is a game which uses the child as the game marker. Each child takes a turn rolling a large box die. He then counts the number of dots on top of the die, and takes that many steps on paper stepping stones, blocks, or on brown paper marked-off and taped to the floor. The end goal could vary from an entrance into an obstacle course, to feeding the various animals, or to landing on certain specific squares that offer other things to do.

All kinds of relays are also possible with older children, starting with very simple ones where children merely run to a certain spot and return to touch the hand of the next in line, and progressing to ones involving very complicated directions, such as "walk with your hands behind your back, pick up the blue ball, and roll it back."

Materials: Box die for the "Travel Dice Game."

Comments or Cautions: Teachers will almost always have to provide supervision for such games to be sure that everyone gets a turn and that safety rules are enforced. It is important to keep to very simple games until children have shown the ability to cope with more complicated rules. As always, the fun is in the playing, not the winning. In fact many of these games can be played without anyone winning.

LM-28 Cleaning the Playground

Uses:
Large motor
Social-emotional (respect for rights of others)
Conceptual (occupations and safety)

Description: Many areas where children take walks or public parks where they play are littered with glass, cans, and papers which make play dangerous or unpleasant. Children can learn that they can make their surroundings more pleasant, and also become more conscious of picking up after themselves by giving them paper or plastic bags in which they can gather trash to be put into a trash can or litter basket. This could be done for a few minutes each time they go to the park, or it could be planned as a special project in which the children and staff try to clean up a particular area or see how much junk they can collect on a walk taken especially for this puropse.

Materials: Paper or plastic bags.

Comments or Cautions: This is a project which must be thought and carried through carefully. Since children can cut themselves on broken glass or tin cans, it is a good idea to do it in the wintertime when they are wearing gloves or mittens. Parents may object to the project, and their cooperation should be sought ahead of time. Finally, define the goals so that the children do not feel that they are working at an impossible task--in the park, getting only a small area clean, or seeing how much trash can be collected on a walk, not trying to clear the whole area walked through.

LM-29 Looking at Cloud Shapes

Uses:
Perceptual-motor (form discrimination)
Language
Conceptual (weather, geography, shapes, and fact-fantasy distinctions)

Description: Children and teacher sit or lie on their backs in the play yard and look at the interesting shapes the clouds form in the sky. If it is an especially good day for clouds, draw their attention to the different varieties of clouds. Note if the wind is blowing and its effect on the clouds. Many children will enjoy finding things in the clouds (animals, monsters, story characters, etc.). Help them share their findings with the other children. Encourage them to find other things in the sky besides the clouds such as planes, birds, insects, moon, blowing leaves, etc.

Materials: A soft dry place to lie down and blankets if the grass is cold or damp.

Comments or Cautions: Outdoors suggests large muscle activity, and much of it. However, this could be used as a quieting activity for a few or many children before returning inside, going home, waiting for the bus, etc. Some children may find this a very relaxing, quiet time and should not be pushed to talk about what they are seeing if they are happy just watching the sky.

LM-30 Oiling Tricycles and Wagons

Uses: Small motor
Conceptual (machines and auditory discrimination)

Description: A child using an oil can with a small opening puts a *few* drops of oil on the moving parts. The teacher suggests that he *listen* to where the squeaks come from and apply oil at those points. Turn wheel carefully and listen again. Notice to see if wheels turn with more ease.

Materials: Container of lightweight machine oil; oil rag or paper towel; and trucks, tricycles, wagons which need oiling.

Comments or Cautions: This needs careful adult supervision and limits. Do it outdoors. It provides good adult-child interaction, especially if custodian, parents, or big brother or sister could help.

LM-31 Stocking Cap[4]

Uses: Large motor
Small motor

Description: Old nylon stockings can be tied end to end by the children, or by the teacher to make as long a "stocking cap" as they like. (Be sure to leave one open end to fit on the head.) The children are delighted by having the "cap" trailing behind them or blowing in the wind as they run.

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[4] Kyllikki Hodgden and Anna Shaw invented this activity when they were seven and four years old.

Materials: Old nylon stocking.

Comments or Cautions: *As with ropes, watch and warn children to be sure that stockings do not go around their necks.*

LM-32 Fish Pond

Uses:
Large motor
Perceptual-motor
Conceptual (numbers)

Description: Fasten paper clips to pieces of colored paper, construction paper, or tissue paper, approximately 3" x 5". Children may help make them by cutting or tearing and may want to color or decorate them before or after "fishing." Sometimes fish shapes are cut by the child or teacher, but that is not necessary. Make a pond by using masking tape on the floor or a large flat cardboard box; the fish poles are magnets fastened to a string tied to a piece of dowel. Children take turns dropping their magnets into the pond to "fish." If children are learning numerals, different fish might have different numbers.

Materials: Paper clips, paper, magnets, dowels, string, tape, and a flat box or tray.

Comments or Cautions: Imaginative play or art activities may follow: "cooking" the fish, "decorating" the fish, etc.

Give demonstrations on safe use of the fish pole. As you pick it up keep it in front of you, hand always near the heavy magnet when out of the pond. Limit the number of children and emphasize that fish poles stay at the pond.

LM-33 Hammering Nails

Uses:

Large motor
Small motor
Perceptual-motor
Social-emotional (frustration tolerance and tension release)
Conceptual (counting and stretching)

Description: Have children pound nails into pieces of wood, a tree stump, or sections of logs. Children interested in counting can ask for a certain number of nails or count the nails as they pound them.

As an alternative have children leave about an inch of nail showing and have them string cotton loops or rubber bands between them. (This works best if children use individual boards.)

Materials: Nails, hammers, pieces of stumps or wood, and cotton loops or colored rubber bands.

Comments or Cautions: Be sure that the smaller pieces of wood are used on a surface which will not be damaged if the nails go all the way through. *Like all activities using hammering, only a few children at a time should participate. Provide close supervision.*

LM-34 Woodworking

Uses:

Large motor
Perceptual-motor
Social-emotional (tension reduction, sharing, problem solving, and creativity)
Conceptual (tools, texture, linear measurement and occupations)

Description: Working with wood can be a very productive experience for threes, fours and fives; but it requires careful thought and direction on the part of the teacher.

Simplest and easiest is to provide small scraps of wood, wallboard, styrofoam, heavy cardboard, and Elmer's glue and to let the children use it for the production of sculpture, houses, boats--that is, for whatever they like. Some of the cardboard and wallboard should be in the form of small sheets to provide bases, if needed.

When woodworking tools are first introduced, the children may often be interested only in the process and not in the product. The teacher may want at first to provide only one kind of tool at a time: hammer, nails, and wood; wood with holes already drilled in it, screws, and screwdrivers; or lengths of very soft wood which fit easily into the vise and a saw; or pieces of soft wood and sanding blocks.

When children have mastered some of the necessary skills and know the safety rules, the usual workbench arrangement with several kinds of tools available can be set up and children can work at projects, saving and painting their products if they like. (Still many children will only want to use the tools for manipulation.) At this point it is useful to add wooden wheels, small spools, and various interesting shapes of wood such as dowels and moldings.

Materials: For woodworking without tools provide pieces of wood, styrofoam, cardboard, wallboard, and Elmer's glue.

The woodworking bench should be a large, sturdy table with two good quality vises. (Wooden vises with wooden handles and attached permanently to the table are preferable to the typical small, metal vises which screw on and off, because children can usually work the wooden vises themselves.) The woodworking bench should be equipped with two saws, two ballpeen hammers for hammering, one claw hammer for removing nails--not for hammering, one hand drill, two screwdrivers, two sanding blocks, nails, and screws. It is essential that all equipment be of really good quality. Tools should be real tools that work, not toys. They may be purchased at a hardware store or through a school supply company. See also *TTT-49, Things to Try with Woodworking.*

Comments or Cautions: The senior author has strong feelings about safety in the use of woodworking tools, and these are reflected in the following comments. *Unless a group of three-year-olds is exceptionally mature it is probably better to stick to woodworking with glue and perhaps a hammering experience such as hammering nails into a stump. Whatever the age of the children woodworking must be carefully supervised, which means not more than two children at a time using hammer or saws. (If others wish to work at a distance with sanding or screwdrivers this is all right.) The teacher should be* *within arms length of the children at all times and under no circumstances leave the room. Woodworking tools should always be kept in a special place and not available except to the teacher.* At the same time the teacher can help the children move toward more independent use of the tools by teaching them safe ways of using them. For a dependable group of kindergarteners the teacher may relax the rules when she feels the children are ready.

LM-35 Blocks

Uses:

Large motor
Small motor
Social-emotional (problem solving, interaction with children, respecting rights of others, role playing)
Conceptual (fractions)

Description: Block play is basic to nursery school and kindergarten curricula precisely because it can meet so many different kinds of needs. Therefore it is very important to have an adequate supply, preferably of three sizes (table blocks, unit blocks, and large-scale hollow blocks) even if it means that the first two types must be made from scrap lumber (well sanded) and the latter of cardboard rather than wood.

Good use of block play also requires a large area out of the line of traffic, hopefully where special structures can be left overnight. A short-napped carpet which lies flat will reduce noise. Various kinds of toys such as rubber or wooden animals and people, trucks, cars, and machines, will increase the range of block play. The teacher can stimulate the use of block play for role playing by adding special props appropriate to topics being emphasized in the program or topics in which the children have shown interest, e.g., safety helmets for construction, red flags and stop signs for road work, doll furniture for home building, etc.

Space for organized storage is essential. Children will find it easier to put blocks away if contact paper is cut in appropriate sizes and shapes and glued to the shelves where each size of block belongs.

Use of unit blocks can help children to understand fractions, if they can be shown that each size of block is one half the size of the next larger block. From there they can go on to exploring one-to-four relationships.

Materials: Table blocks, unit blocks, and hollow wooden or cardboard blocks. See also *TTT-4, Liquor Box Blocks,* and *TTT-5, Milk Carton Lego.*

Comments or Cautions: *Block play requires close supervision. Unless you have enough staff so that someone can always be in the block area when it is in use, be sure that all parts of it are clearly visible from other parts of the room. It may be necessary to limit the number of children who can use blocks at one time. It is also important that all staff should be clear and consistent in enforcing safety rules as to how high blocks may be built.* (Some say only to the shoulder, others say as high as the child can reach.) *If staff is willing to tolerate the noise involved in knocking down blocks, rules should include letting everyone know to get out of the way, and knocking down only in certain directions.* If it is the rule that blocks are not to be knocked down, a good alternative is to have some cardboard blocks or boxes which may safely go down.

LM-36 Sand Play

Uses:
- Large motor
- Small motor
- Social-emotional (dramatic play, initiation of activities, interaction with children, and tension release)
- Conceptual (volume, geography, texture, and weight)

Description: Sand play is one of the most basic activities in the nursery or kindergarten because it can be used in such a variety of ways by children of different ages and needs. Outdoors, the larger the sand area the better, so long as there is some way of containing it and, if animals are a problem, keeping it covered. Toys for the outdoor sand area should include pans, sifters, spoons, funnels, small shovels, and both small and large trucks of a variety of types including dump trucks.

Indoors sand presents more problems and it may not be possible to have it available every day unless there is space out of the way for a covered sand table. As with water play it is possible to vary the use of the sand by having different accessories at different times, such as cooking pans, measuring cups, etc. at one time and small trucks and blocks at another. Children will play differently with the sand depending on whether it is wet or dry. Generally younger children will tend to use the sand more manipulatively while the older ones incorporate it into more involved dramatic play; however, even some fives need the tension release that comes from just digging, pouring, and feeling.

If interested, older children may be helped to make a geographical sand table by constructing hills, mountains, and valleys from wet sand, and adding twigs, leaves, flowers, etc. for vegetation. An unbreakable mirror, aluminum foil, or blue paper could be used for water, and strips of brown paper for roads for matchbox cards. Even houses and villages might be possible in an ambitious project. However, the teacher should be sure that the ideas for the project come mostly from the children rather than from her, and that they are really motivated for such a major effort.

Materials: Outside sandpile, inside sand table, kitchen utensils, shovels and buckets, cars and trucks of various sizes, and props for geography play. (We like a mixture of two parts brown sand to one part white sea sand, if possible. All sea sand is beautiful to look at and feel, but it does not pack as well and is particularly slippery if it gets onto floors or sidewalks.)

Comments or Cautions: It is important to set clear limits on use inside and out. *No throwing, sand stays in the sandpile, sand on floors or sidewalks is to be swept up immediately to avoid falls.* Sponge brooms are particularly good for getting up sand. Saw off a handle to a child size and keep broom and dust pan always near the sand area.

It may be necessary to limit the number of children at the table or in the sandpile at any one time. However, this can usually be flexible, depending on how the particular children in the sand are getting along at any given time.

LM-37 Water Play

Uses:

Large motor
Small motor
Social-emotional (initiation of activities, initiation of contact with other children and tension reduction)
Conceptual (liquid measurement, weight, volume, and temperature)

Description:

Because water play is such a useful activity, it is very desirable to have a good water play table with a drain hole in the bottom. (Community Playthings is a good source.) This has the advantage of a large enough space for social play, a reduction of spilling and splashing, and ease in emptying. If this table can be combined with a nearby source of water and a hose for filling, regular water play becomes easy to provide. If this is not possible, a table can be improvised by using a very small child's swimming pool (available in summer from the dimestore) on a regular table or a large dish pan for each child using the water play area. (In the latter case, be sure the table is covered with a large towel.) Children should always have on waterproof aprons.

Several variations on water play may be used. Simply for manipulative and social interaction provide (in addition to slightly warm water) various containers for pouring water, basters (plastic with rubber bulb on the end), funnels, etc. On another day the toys provided may be toy boats or children may make their own from wood. With the addition of detergent, and straws for blowing through, a whole new activity emerges. For liquid measurement provide plastic measuring containers of various sizes and paper containers such as pints, quarts, and half-gallons. Color concepts may be added by having the water colored. Concepts of weight, floating, and sinking may be taught by having available various objects and letting children see if they sink or float. ("Fish" cut out of milk cartons are fun to float.)

Materials:

Water play table or pans, buckets for filling and emptying, and various play materials. See also *TTT-48, Toys for Water Play.*

Comments or Cautions:

If this activity is to be used frequently, the teacher must be sure to set limits early: water stays at the table and no splashing or throwing water. Children can help empty and fill with small half-full buckets.

Few activities are as good for involving the shy, immature child or for reducing tension. It is particularly good for days when outside play is not possible. For most effective teaching of concepts, keep the various kinds of usage suggested above separate. Do not just use all kinds of materials at any one time; but clearly provide new types of water play activity from one time to the next.

LM-38 Soap Bubbles

Uses:	Small motor Social-emotional (initiation of activities) Conceptual (lightness and air)
Description:	As soon as children learn to blow through straws without also sucking in, they will love being able to produce mounds of bubbles by blowing into a pan of soap suds. This can be done simply by filling the water table full of soapy water and providing straws, or children can be given individual pans of water on trays. (The latter is more trouble but in some ways more satisfying because each child makes his own pile of bubbles.) Older children will enjoy using bubble pipes or commercial bubble mix and wands. (The wands which have round holes, so that bubbles can be produced by swishing it through the air, are best used out of doors.)
Materials:	Soap or commercial bubble liquid; pans, trays, and smocks; straws or bubble pipes.
Comments or Cautions:	Have plenty of straws; they tend to disintegrate rapidly in use.

LM-39 Painting with Water

Uses:	Large motor Conceptual (temperature, volume, and occupations)
Description:	On a warm day provide buckets of water and two-inch brushes, or wider, or use a variety of widths for "painting" in specified areas such as wall, fence,

stones, trees--not tricycle seats and surfaces which will be used for other purposes. If there is an outside faucet let children put in water, filling containers about half way.

Materials: Inexpensive brushes or old worn ones, steady containers such as #10 tin cans (with smooth edges) or small paint buckets available very cheaply at paint stores, and smocks or bathing suits if weather is hot.

Comments or Cautions: If children add dirt or sand, remove brush and designate a "mixing" area if you feel this is appropriate.

Set a central location for brushes and buckets and encourage child to return equipment to that area before going to another activity.

LM-40 Making a Mess

Uses:
Small motor
Social-emotional (tension reduction)
Conceptual (mixing and textures)

Description: In this activity children are given bowls or other containers in which they can mix together various materials just for the fun of mixing. There is no end product, edible or otherwise and no directions as to how the children should use the materials, except the usual limits as to keeping the mess in a certain area, not throwing, etc. Children may mix with spoons or with hands, take it out onto the table for kneading or molding if the consistency is thick enough, and just generally explore with it. Materials will vary depending on what is available. This is a great activity to save for times when children seem tense or bored and need something special.

Materials: Any stale or otherwise unusable dry food products such as corn meal flour (sift out the bugs), stale cornflakes, old spices and herbs, bread crumbs, etc. Ask parents and friends to save such items whenever they clean out cupboards. Also use sawdust, sand, small gravel, dried leaves, and water, colored or plain.

Comments or Cautions:	*Be sure children understand that the mixture is not to be eaten. Do not use any nature items such as berries unless you are sure they are not poisonous. If sawdust or salt is included, supervise to be sure that none ends up in someone's eyes; but have the eye cup ready.*

Chapter 13

"Art" Activities

Introduction

In the title of this chapter, we have put the word "art" in quotation marks to indicate that our definition of art activities is a very broad one. We include any activity which uses paints, clay, playdough, crayons, etc., and which usually (but not always) results in an end product of some kind. Many of these activities cannot be considered "art" activities in the strictest sense--that is, activities using art materials for the major goal of developing the child's creativity.

Art materials, like climbing equipment, books, and songs can be used for a wide range of goals. As with any curriculum planning it is essential that a teacher be aware of *why* she is using a particular art activity. For example, a teacher may put out crayons and paper with form stencils to help a child with perceptual-motor problems or crayons in color-keyed juice cans to teach color matching; or she may suggest that children do a picture about winter to help them think about weather concepts. However, if her goal is to develop creativity, she must leave the child free to use materials as he likes. In other words, most materials may be used sometimes in a free and creative way, and at others in a structured way, depending on the teacher's goals.

How can a teacher be sure that the child's ability to make creative use of materials will not be lost in such a multi-goal approach? First, she can *always* be sure that he has ample opportunity to explore the material in his own way before a more structured use is suggested to him. Thus, if a kindergartner has never used clay before, he should have the chance to work with it freely in a number of sessions before the teacher decides to use it in a lesson on three-dimensional form. Second, creative materials of some kind should *always* be available for selection during free play time; and children who do not use them should be encouraged to do so. And third, the teacher should avoid making models for the children and should make sure that they know she places a high value on their original art products.

One caution is in order. Sometimes teachers are so concerned about leaving children free to work on their own that they fail to give basic guidance in the process of using materials. A demonstration of how to put paste on paper, for example, may be necessary if a child is to get anything out of a pasting project. (If he then wants to do it his own way, fine!)

School "art projects" have gained a bad name partly because these projects often take the place of free use of materials and partly because the end product is so often judged by the teacher and the children in terms of conformity to an adult-made model. If children in a group often enjoy free use of materials, there is no harm in suggesting that they might want to draw a picture about the trip which they have made to a bakery so long as the individuality of their approach is respected (including that of the child who prefers to do a free-form drawing or not to draw at all). An occasional craft project in which all children are given the chance to make kites, crowns, or flags can be fun for everyone, especially if set up so that each child can "do his own thing" in choice of colored paper and in details of the project. But keep in mind that the process is always more important than the project!

This brings up the question of displaying artwork and taking things home. Almost every child enjoys seeing his work on the wall or showing it to his mother. Having other people see and praise his work helps him see himself as someone who can do things--who is a worthwhile person. To use display of artwork for building self-concept it is very important not to choose "the best" work to be hung, but rather to display regularly work done by all the children. If one child's work is put up more often than another's, it should be because he needs the boost to his ego, not because the work is "better." This requires providing a lot of space for hanging paintings and changing them often. A place should also be available for showing three-dimensional work such as styrofoam sculpture and clay modeling.

The practice of always labeling a child's work with his name provides added satisfaction for him (as well as helping him to recognize his name and avoiding arguments about ownership). Printing the child's name in the left-hand corner and spelling it while printing also provides a basis for later reading and writing skills.

Before children take work home, a little parent education may be in order. Some parents are not used to the kind of free artwork which young children do and may unintentionally ruin a child's pleasure in his painting by labeling it messy or ignoring it. Others expect a lot of teacher-directed projects. If a parent comes to pick up the child, the teacher may say how much she likes the colors in the painting which the child is taking home or comment on how hard and carefully he worked on it. When children are bussed or walk home with brothers and sisters, it might be well to make a brief informal discussion (in a newsletter or a parents' meeting) of the purpose of art activities in the child's development.

Very little if any permanent equipment is needed for an art program. The one exception is easels. While some teachers prefer to have children paint flat on the tables or floor, we feel that painting usually goes better with some kind of an easel. These could be hung on the wall, free-standing easels, or inexpensive homemade ones. (See *Easels, Making.*) In addition, there should be an adequate amount in the budget for such items as scissors, paint brushes, and expendable materials. (See the Appendix for a suggested list of materials.)

The art activities described in this chapter are divided into three sections:

1. Basic art activities which should be available regularly, either every day or two or three times a week are included in the first section. At best, all children should have the chance to use paint, crayons, clay, play-dough, paper, scissors, paste, and the blackboard as often and as freely as they like.
2. The second section includes supplementary activities, which will be used less frequently because they are more work for the teacher, use more expensive materials, or are of less interest to children, but which can be used creatively to produce a great variety of products. Teachers will want to use many of these a number of times during the year. For example, many schools use finger painting as often as once a week. Other teachers might use it only once a month. The choice would depend on the budget for paint, help available for cleanup, and the special needs of children in the group.
3. The final section of the chapter includes projects which are used specifically to get across a particular concept and which might be used only once, such as pasting food pictures onto a paper plate, making Indian hats, etc. Only a few examples of these have been included since it would be impossible to provide art activities for every possible concept and because stress should be on the creative art activities. However, an inventive teacher can always ask herself, "Now how could could we use art materials to give experiences with this concept?"

A general safety and health note: many art projects require the use of pointed scissors by the teacher or children. These should *never be used by children without a teacher at the table, and when not in use should be kept out of children's reach.*

Teachers need to watch to be sure that small objects used in projects such as beans, beads, or seeds are not put into the mouth, ears, or nose. Children should not be allowed to eat paste, play-dough, or clay.

BASIC ART ACTIVITIES

A-1 Tempera Paint

Uses:

Large motor
Small motor
Perceptual-motor
Social-emotional (tension release, interaction with other children, and creativity)
Conceptual (color, line quality, and two-dimensional form)

Description: Many teachers feel that paint and paper should always be available during free play time. Standing or wall easels with 18" x 24" sheets of newsprint and large brushes are more or less standard for the nursery school or kindergarten. If you cannot afford or do not have the space for permanent easels, simple inexpensive table easels can be used. (See *Easels.*) While it is possible to paint with the paper flat on the table or floor, having the paper vertical is more satisfactory for the artist.

This medium should be kept as free and unstructured as possible for the child, but the teacher can make painting more interesting by providing some variations in the materials at times.

Paper. Use newspaper, paper in various shapes (here painting may need to be done at a table), colored paper, or tissue paper.

Brushes. Half-inch brushes are more or less standard for easel painting, but brushes from one-eighth inch to one inch should be available at times.

Thickness of Paint. While paint which spreads easily yet does not drip is best for everyday, "globby" or "drippy" (very thick or very thin paint) on occasion adds interest and new concepts.

Color. Most of the time, clear, primary colors are used, especially for very young children; and usually only three or four colors are used at one time. However, purple, green, orange, black, brown, and white should be used frequently. Older children can mix many other colors such as blue-green, grey, and lavender.

Such variations not only add interest but also make it possible for children to experiment with qualities of color and line. Let children discover differences for themselves, then talk about them, introducing such words as "thick," "thin," "bright," and "dull," etc.

Materials: Easels of some type with trays or paint holders; brushes in a variety of widths; newsprint, wallpaper or other paper (construction paper is too expensive except for special projects); and tempera paint. Some money can be saved by buying powdered tempera paint and mixing it, but the cheaper brands of paint are sometimes unsatisfactory. Extender or liquid starch can be added to provide a thick paint for less money.

Comments or Cautions: Limits which are clear to adults and children must be placed on the use of paint from the beginning. These might include: paint stays at the easels and on the paper except for special projects; no painting on people; keep each brush in its own color; and wipe off the brush on the side of the jar. As with most rules there may be exceptions--a child who previously had been compulsively clean might need to experiment with painting on his hands. And sometimes color mixing can be productive.

Whenever and wherever paint is used, thought must be given ahead of time to make cleanup as easy as possible--use smocks on the children and paper under the easels or on the table. (See *TTT-10, Smocks.*)

A-2 Crayons

Uses:	Small motor Perceptual-motor Social-emotional (creativity) Conceptual (color, line quality)

Description: Crayons are so usual as an activity for young children that teachers may fail to use them creatively. However, many new uses can be found for crayons by varying paper and technique in the ways described below.

Varying paper. Provide paper of different sizes, shapes, colors, and textures. Children can draw pictures on postal cards which are then mailed to parents. Wax paper, aluminum foil, and sandpaper can be used for experimenting on whether crayons adhere to different surfaces. Children can make murals with large paper tacked to the wall, or spread on the floor or a table.

Varying technique. Children can cover paper with solid areas of color and then draw over the colors with a pencil; or they can cover the colors with india ink or black crayon, using a pencil or stylus to scrape off the black and produce a picture. After making a picture with crayons, children can paint over it with water-base paints; diluted paint will not stick to the crayon areas. Place mats can be made by drawing on paper or muslin, covering it with wax paper, and using an iron to fix the color. Crayon scrapings or shavings can be melted onto paper or cloth by laying them over a warm trivet; or children can press the crayon shavings onto paper with a warm iron, using paper between iron and crayons.

Crayons can also be used to teach concepts or as part of a learning device. For example, crayons can be sorted (color, length, thickness) to develop classification skills; they can be used to teach colors, by asking the child to name colors as he chooses them. To teach parts of the face, have the child use crayons to put in the features of a paper sack puppet. For small muscle control, use coloring books and stencils with crayons. Roadways for block and car play can be drawn with crayons. Make puzzles from children's crayon pictures by gluing the pictures to cardboard and cutting the puzzle pieces with a sewing machine; if a small stitch and no thread is used, the perforations will permit easy separation of pieces.

Vary the containers used to store crayons; use orange juice cans and bandaid boxes, for example. Store stumps of thick primary crayons in special wheels.

Materials: A variety of wax crayons, large and small; craypas; and chalk.

Comments or Cautions: Check to be sure that crayons are in satisfactory condition and that there are a good range of colors.

When using an iron, be sure a teacher is always within reach.

A-3 Clay

Uses:
Small motor
Perceptual-motor
Social-emotional (release of tension and creativity)
Conceptual (long, flat, round, twist, flatten, roll, texture, weight, fractions, and three-dimensional form)

Description: Place balls of soft, pliable clay approximately four inches in diameter on pieces of heavy cardboard or directly on a washable table top. Shallow pans of water for dampening the fingers will be helpful. Tongue depressors are suitable for cutting the clay.

Later add cylindrical blocks for rolling, and objects which can be used to mark in the clay such as plastic knives, forks, and toothpicks.

Materials: Clay (the least expensive potters' clay--not "modeling clay" which is greasy, hard to clean off floors and children, and much more expensive); boards (cardboards, 12" x 18", or pieces of masonite); tongue depressors and other objects for cutting and marking; and a small pie pan with water.

Comments or Cautions: Encourage child to use clay as many ways as possible with hands before introducing other objects which might be combined with it. If pointed objects are used, play must be carefully watched. Words for ways of manipulating, e.g., "roll," "twist," etc., and for description of shape, e.g., "long," "flat," etc. can be naturally introduced into conversation. Children can also be encouraged to experiment with comparing the weights of pieces of same and different sizes. However, clay is an excellent medium for release of feelings or expression of creativity; and when the child is obviously using it for this purpose, the teacher should not intrude with the teaching of concepts.

If older children become interested in making objects or pots, arrangements may be made to have them fired. Ordinarily clay will be reused, or objects can be dried in the sun.

A-4 Playdough

Uses:
Small motor
Perceptual-motor
Social-emotional (tension release, initiation of activity and creativity)
Conceptual (color, long, flat, round, twist, flatten, roll, texture, weight, fractions, and three-dimensional form)

Description: Playdough and clay provide different kinds of experiences and should not be considered substitutes for each other. However, the description and comments listed above under clay also apply here.

On some occasions children can help make playdough, but the teacher will probably want to keep a supply on hand in the refrigerator. Sometimes children may be given white dough and a choice of food colors to mix in themselves. Macaroni, corn, birthday candles, etc. can be used for decoration. Juice cans with both ends removed make good rolling pins.

Materials: Playdough may be cooked or uncooked. To make the uncooked variety, mix together three cups flour, one cup salt, two tablespoons salad oil, and enough water to make a dough-like consistency. (More salt would produce a different texture.) Store in the refrigerator.

Cooked playdough is more trouble, but keeps longer and has somewhat better consistency. It may be cooked in a deep fry pan in the classroom. Heat one and one-half cups water and one-half cup salt to the boiling point. Add two tablespoons salad oil, two tablespoons powdered alum, two cups flour, and food coloring.

Comments or Cautions: An extra dish of flour and salt mixture for dipping hands may be helpful. Be sure playdough is thoroughly mixed before children start working with it. Do not structure as making "cakes" or "cookies," but let individual children decide how it should be used. Reserve cooky cutters until a variety of more creative experiences have been offered.

We have found this to be one of the very best materials for immature or shy children. It is a good activity to use early in the school year (even the first day) and frequently thereafter. It is not a substitute for clay; both should be used often.

As with all activities using salt, warn children to keep it away from their eyes; and have an eye cup in the bathroom. Children with open cuts or sores on their hands will find the salt stings.

A-5 Cutting Paper

Uses:
Small motor
Perceptual-motor
Conceptual (two-dimensional form)

Description: Although cutting enters into many special projects, the child may just enjoy cutting for the fun of it with no special end in mind. Have available in a tray or low cardboard box a variety of materials suitable for cutting: firm papers, ribbon, paper cups, corrugated paper, candy papers, interesting wrapping paper, and scissors. The child may use these for a collage or mobile, or he may want to put his cuttings into an envelope with his name on it.

Materials: Scissors, paste, and a wide selection of materials easy to cut. (See *TTT-15, Scissors Holder.*)

Comments or Cautions: Limits as to where and how scissors are used should be established. Scissors *should be of good quality and in good condition to avoid frustrations.* Have left-handed scissors available. Encourage parents of "lefties" to buy good left-handed children's scissors for use at home.

Egg cartons and meat trays already cut into manageable pieces of heavy construction paper are often easier for children to cut than thinner, flimsier paper.

A-6 Collages

Uses:

Small motor
Social-emotional (creativity)
Conceptual (materials, textures, shape, etc.)

Description: A collage is simply a design or picture made by pasting pieces of paper or objects of almost any kind onto a piece of heavy paper or cardboard. Children usually love this activity, and it can be offered over and over again with many variations. Some schools leave collage materials and glue on the open shelves as a free activity if their children are mature enough to put out the materials and clean them up mostly by themselves.

Materials: Glue (either Elmer's in squeeze bottles or paste in dishes); heavy paper, cardboard, or thin wood such as shingles; and a variety of things to paste. Some good items for pasting are listed below.

Paper. Tissue, colored construction, textured wallpaper, newspaper, sandpaper, cut up greeting cards or colored pictures from magazines. Any of these may be cut out to show what they represent or cut across lines to produce interesting combinations of colors and shapes. Papers may also be torn rather than cut to make contrasting edges.

Fabric. Corduroy, silk, satin, brocade, wool, velvet, felt, net, lace, and cotton balls.

Food products. Many kinds of macaronis (white or colored), beans, dried peas, lentils, and birdseed.

Nature materials. Rocks, leaves, dried weeds, bark, and rough wood.

Miscellaneous. Small, relatively flat pieces of lumber, styrofoam, and wood shavings.

Comments or Cautions: Many times children lose interest in collages because they are presented with the same box of materials each time, or with things in such a jumble that they cannot find what they are looking for. It is much more effective to present a limited number of materials each time such as different kinds of beans; a mixture of different kinds of red, orange, and shiny paper; or nature materials, and to have materials in divided boxes or on different trays so that things are easily found. Children can be asked to help to keep the different materials straight as well as to help sort them out to put away at the end.

If heavy materials such as rocks or wood are included be sure to use very heavy cardboard (such as the dividers out of boxes of paper or cut up cardboard boxes) or pieces of wood as a base. Otherwise the collage will tend to fall apart. It is also important to allow plenty of time for drying, often until the next day.

A-7 Blackboard

Uses:
Large motor
Perceptual-motor
Conceptual (line quality)

Description: If a blackboard is available on a wall of the room, or standing in a frame, simply being sure that chalk and an eraser are always available will lead many children to make frequent use of it. However, varied use can be encouraged by putting out colored chalk or by starting a picture by just drawing a few lines or forms and letting the children take it from there.

For children who have special needs in the area of coordination, the blackboard can be especially useful. It is possible to present many drawing tasks at very large scale, and the ease of erasing something they are not happy with encourages many children who hesitate to draw on paper. Aside from just free drawing on the board, suggest that children draw great big circles, with one hand, then with the other hand, and with both hands. Try it with both hands going in opposite directions (this is easier because both arms move inward and outward at the same time), then with both hands going the same way.

The teacher can draw lines from one end of the board to the other and ask children to draw another line parrallel to it. These can be straight, wavy, or zigzag, or could be vertical lines. A variation would be to ask children to draw lines between two lines drawn by the teacher, trying not to touch either.

The teacher can make X's, squares, or circles on the board and ask children to draw straight lines from one to the other. Two children can do this together, or one child can draw his own points and connect them.

Many other activities usually done on paper or with felt and cardboard forms can be translated to the blackboard. (See *L-8, Flannelboard* and *T-26, The Copying Game.*)

Materials: Blackboard and chalk.

Comments or Cautions: If the room was originally intended for older children, the blackboard is probably too high for good use. Try to get a walkway built along the base so that children can use the entire board. At least provide sturdy, nontipping stools or chairs for children to stand on.

In a classroom lined with blackboards, some can be used for mural painting with tempera paint. (It washes off easily.) However, crayons are very difficult to wash off blackboards; so emphasize, "Crayons on paper, chalk on the blackboard."

A-8 Magic Markers

Uses:
Small motor
Social-emotional (creativity)
Conceptual (color, line quality, thickness, and thinness)

Description: Magic markers with both wide and narrow tips can be available to children on the open shelves, just as crayons are. However, because of the cost most teachers bring them out as a special activity. They do have certain advantages which make it desirable to have some for every school, in spite of the expense. They draw more smoothly than crayons, yet require more small motor control than painting, and hence are particularly good for small motor practice. They are available in a wide range of very attractive, clear colors, thus giving a chance for color naming. Further, they seem to be particularly appealing, so that putting out magic markers attracts children to small motor or creative activities who usually avoid them.

Materials: Magic markers of various widths. (See *TTT-9, Bottle Magic Markers.*)

Comments or Cautions: Children need to be reminded that caps must be put back on the markers immediately to avoid having them dry out. There should also be clear limits as to how they are to be used, because it is very tempting to draw on hands, dolls, etc. as well as on paper.

Be sure that all markers, even those used only by teachers, are washable--not permanent. Not only are permanent markers really permanent, but they are also poisonous.

SUPPLEMENTARY ART ACTIVITIES

A-9 Finger Painting

Uses:
Large motor
Small motor
Perceptual-motor
Social-emotional (tension release)
Conceptual (color and texture)

Description: Finger painting will be used much less often than easel painting both because it requires more supervision and time in cleanup and because it has a narrower range of possibilities for the child to explore. However, it offers some unique experiences including a combination of large motor and sensory sensations, a medium with which something can be expressed and immediately destroyed, and the possibility of "making a mess" in an acceptable way.

For these reasons it is particularly appropriate for the immature or the emotionally disturbed, but most children enjoy it.

Finger paint may be bought commercially in large jars or made by beating Ivory Flakes and water together with an egg beater until fluffy. Paint can then be added or children can sprinkle on their own paint and mix it themselves.

The simplest way to use finger paint is without paper--putting globs onto an enameled or plastic covered table top and sprinkling tempera powder onto it. Here it is necessary to have ample space to avoid arguments about where one child's painting stops and another's starts. (Clean up by scraping paint into a pan with a dust pan.)

Both homemade and commercial finger paint can be used on finger paint paper or shelf paper, in which case the finished product can be dried and exhibited or taken home. Wet the paper by sliding it through a pan of water at the table, then press firmly onto the table top.

If finger paintings from previous sessions are not wanted by their owners, letting the children cut them up for collages makes for interesting results because of the gradations in colors and textures which are possible.

One "way-out" version of finger painting is to let children paint with their feet on pieces of paper taped to the floor.

Materials: Shelf or finger paint paper, and commercial finger paint (use large economy size) or whipped Ivory Flakes.

Comments or Cautions: Precisely because this activity is so good for emotional release, rules for its use must be understood by all and enforced: smocks or aprons are required, finger paint stays in the painting area, children do not paint on other children's paper or table area, and once finished and cleaned up children cannot return to the activity. However, aside from these practical restrictions, children should be free to use the experience as they like. A child who gingerly "draws" with the tip of one finger and the child who "scrubs" at his painting until the paper is in shreds and most of the paint is on him are both benefiting from the experience in their own way.

Cleanup often goes better if a bucket of water and paper towels are available near the painting area for cleaning up the worst of the paint, but supervision is still needed in the bathroom.

A-10 Chalk Drawing on Paper

Uses:
Large motor
Small motor
Perceptual-motor
Social-emotional (creativity)
Conceptual (color mixing, winter, line quality)

Description: Use colored chalk on dark colored construction paper, paper towel, or brown paper bag after brushing the paper with water. As an alternative, dip the chalk in water. White chalk on blue or black paper makes a "snow" painting. "Painting" over chalk picture with liquid starch will help keep chalk dust from rubbing off, but this is not necessary.

Materials: Firm paper such as brown paper bag, paper towel, or construction paper; small flat dishes of water; half-inch brushes or wider; colored and white chalk; and newspaper and aprons to protect child and working surface.

Comments or Cautions: You may want to show children that chalk can be used by rubbing the side of it as well as the end.

Use containers for water which will not tip over easily, e.g., cottage cheese box or small pie pan.

This is a very messy activity and the teacher needs to be prepared to set careful limits and to spend time cleaning up (area and children).

A-11 Sidewalk Drawing

Uses:
Large motor
Perceptual-motor
Social-emotional (creativity)
Conceptual (color, texture, line quality)

Description: Either a concrete sidewalk or a portion of a concrete or blacktop playground can be used for drawing with colored chalk. Because it is so different from usual drawing experiences and because it takes place outside, children who do not usually draw may be intrigued by the activity. In some areas rocks are chalky enough to make a satisfying mark on concrete, leading to discussion of what rocks are made of.

Materials: Concrete or blacktop surface, white and colored chalk, and suitable rocks if available.

Comments or Cautions: Children should be warned that these pictures are "temporary," that traffic over the area or rain will soon cause them to disappear. If some children seem to be disturbed by this, the teacher might bring out sheets of paper so that these children can also draw outside, but take their products home.

Immediate smearing of completed drawings can be avoided by fencing off the area with sawhorses or boards while work is going on. Start the first children at the "top" or the area set aside for drawing so that their pictures are not smeared by children doing the next set of pictures.

Some children will only want to scribble or experiment with wearing down the chalk on the concrete. Such interest can lead to discussions about "rough" and "smooth" and what the words really mean.

A-12 Salt or Glue Painting

Uses:
- Small motor
- Perceptual-motor
- Social-emotional (creativity)
- Conceptual (texture and line quality)

Description: Using small squeeze bottles of Elmer's Glue, children "draw" whatever they like on a sheet of white or colored construction paper. They then sprinkle salt, which has been mixed with dry powdered paint or glitter, onto the glue, holding the paper up and tapping it gently to remove the excess salt. They can add glue several times, using different colors of salt. As a variation use sawdust or just Elmer's Glue colored with food coloring.

Materials: Small squeeze bottles of Elmer's Glue, salt or sawdust, paint, and construction paper. It is cheapest to buy a supply of small glue bottles once and refill from a gallon jug; but be sure to clean out tips every time or they will become permanently clogged.

Comments or Cautions: As children use glue the teacher could talk about straight, curved, or wiggly lines but should be careful not to spoil the fun.

At the first session this activity will require careful supervision to be sure that excessive amounts of glue are not used and that children understand the process. Also *always remember when using salt in any project that if children get salt on their hands and rub their eyes the result is very painful. Watch and warn against this. Have an eye cup available in the bathroom.*

A-13 Glass Wax Painting

Uses:
Large motor
Social-emotional (creativity)
Conceptual (line quality, texture, color, etc.)

Description: Glass wax on windows or mirrors can be used in two different ways. The simplest is to spread glass wax over the window and let the children draw in it with their fingers. This can easily be done in connection with a window-washing project. At the end of the fun, the children can complete the job of cleaning the windows with soft rags.

It is also possible to use glass wax as paint for more permanent projects by coloring it with tempera paint and applying it with brushes. With older children this technique may be used to decorate the room by painting seasonal or holiday pictures. However, children should also be allowed to paint whatever designs or pictures they like and wipe it off later.

Materials: Glass wax, soft cloths, tempera paint, and brushes.

Comments or Cautions: When colored glass wax is used, some thought must be given to preventing spills. It may be best to keep plastic cups full of colored glass wax in one central place where the teacher can refill and let the children take only one cup to the windows at one time, returning each color to the table as they finish using it.

To avoid conflict, help the children to decide ahead of time whether each child is to have a section of window to do by himself or, if a cooperative project, how responsibility will be divided.

A-14 Starter Pictures

Uses:	Small motor Perceptual-motor Social-emotional (creativity) Conceptual (two-dimensional form and line quality)
Description:	The teacher pastes a shape or draws one or more lines on a piece of 8 1/2" x 11" construction paper. She then gives the child crayons, magic marker, etc.; and he finishes the picture however he likes. Several sheets, with different forms or different line qualities, may be placed in the center of the table and the child can choose his own. Use a variety of shapes besides the geometric, paste them or draw them any place on the paper (not always in the center), or use a variety of interesting lines (wiggly, angular, etc.). Many children will simply enjoy drawing around or across the shape or lines, but more mature children may actually incorporate the shape or line into a completed picture.
Materials:	Colored construction paper, magic marker or crayons, and cut out shapes of an interesting variety.
Comments or Cautions:	Children may make "starters" for each other. A few examples are shown below.

A-15 Paint "Blots" from Folded Paper

Uses: Small motor
Social-emotional (creativity)
Conceptual (two-dimensional form and symmetry)

Description: Fold sheets of brightly colored construction paper (newsprint will do but is not as exciting) in half and let a child squeeze colored tempera paint in the fold. Then he presses down on the outside of the folded sheet, and opens it to see what he has made. Many children will simply enjoy the process and wish to go no further. Some children however may "see something" and could be encouraged to use tempera, crayon, or chalk to finish their picture. This would be interesting to do after the children had observed cloud shapes and had been encouraged to "find something" in the clouds. Children may sometimes use more than one color in the fold at one time.

If this is a popular project, children may like to experiment with blots on different kinds of paper such as paper towels, tissue paper, and newspaper.

Materials: Colored construction paper or other paper; tempera paint in squeeze bottles; and chalk or crayon, if desired.

A-16 Rulers and Triangles

Uses: Small motor
Perceptual-motor
Conceptual (two-dimensional form, line quality, fractions, and linear measurement)

Description: After children have been introduced to line quality, or after a discussion of drawing plans or what an architect does in connection with a study of buildings, plastic rulers and, if available, inexpensive triangles can be placed on a table with white paper and pencils. (Or triangles can be made from very heavy cardboard.) Children should be free to use these in whatever way they like, exploring the possibilities. However, if it seems appropriate, teachers can comment on some of the line qualities achieved, e.g., straight lines, angles, perpendicular lines, etc.

If an adjustable triangle is available, children can be shown how to use it to make many different angles.

Materials: Paper and pencils; plastic rulers; wooden, plastic draftsmen's, or cardboard triangles; and if possible, one or more adjustable triangles.

Comments or Cautions: Teachers should be careful not to structure this activity as either drawing certain kinds of lines or drawing plans or maps. If children become interested in house plans or maps, however, examples could be brought in for them to see.

A-17 Texture Rubbings

Uses: Small motor
Conceptual (texture, materials, plants, and two-dimensional form)

Description: As children become interested in or are introduced to the concept of differences in textures (rough, smooth, etc.) a collection of variously textured objects can be placed on a table with white paper, small pieces of aluminum foil, and large, very soft pencils and crayons. Children can be shown how different effects can be made by laying paper on top of a textured object and scribbling over it, or by pressing aluminum foil down onto it with the fingers.

Children could take paper and pencil outside and do the same thing over cracked sections of sidewalk, bricks, stone walls, or metal gratings.

Materials: Fairly thin white paper, large soft pencils, crayons, aluminum foil, and any materials which would make patterns. Some possibilities are textured wallpaper, screen wire, bricks, rough boards, textured pieces of tile (floor or acoustical), coins, raised letters, such as are made by label makers, book covers with raised or incised letters, a flat grater, etc.

Comments or Cautions: Younger children are usually interested just in seeing the textures appear on the paper. Older children may want to combine various textures to make a design, to make wrapping paper, or to cut up rubbings to use in collages.

A-18 Vegetable Painting

Uses: Small motor
Social-emotional (creativity)
Conceptual (vegetables, texture, and two-dimensional form)

Description: Cut pieces of carrot, beet, onion, squash, potato, etc., to be dipped in flat dishes of paint and "stamped" on paper as in block printing. Be sure that the pieces are large enough to be grasped firmly. You might use just root vegetables, discussing which vegetables grow beneath the ground. Another day it might be vegetables which grow on vines such as squash, cucumbers, etc. Or just use whatever is available. (Apples cut across the core print star shapes.)

To introduce concepts of firm, soft, juicy, ask the children, "Could we use a tomato? Why not?"

Materials: Vegetables which can be cut into pieces which are firm and easy to grasp (might provide vegetables for tasting), table knives, and suitable cutting surfaces.

Comments or Cautions: The cutting may be more interesting than the painting; if so, the child should not be expected to go beyond the cutting stage.

A-19 Two-Dimensional Forms

Uses: Small motor
Perceptual-motor
Conceptual (two-dimensional form)

Description: To experiment with two-dimensional forms, give children sheets of colored and white paper, and in the center of the table place cardboard sheets with circular, square, triangular, etc. holes which can be used as stencils and sturdy cardboard forms which the children can trace around. The teacher can show the children how to draw around forms and how stencils can be used either by tracing around the inside of the stencil or by taking a crayon and coloring back and forth across the stencil to produce the form on the sheet of paper underneath. Children should then be permitted to experiment with the stencils and the forms in any way that they like. They will probably want to compose pictures by combining forms, overlaying them, etc.

As a variation, children may also explore forms by having a box of colored forms cut out of paper in the center of the table with paste and sheets of colored or white paper. They can then paste the forms onto the paper in any design or combination they choose. (It is better not to use stencils and pasting forms at the same time, because paste gets on the stencils.)

Materials: Colored paper; crayons; chalk; a large number of stencils, colored forms, and forms to be drawn around (made from cardboard or plastic ones from school supply houses); colored paper forms for pasting; and paste or glue.

A-20 Stick-on Pictures

Uses:
Small motor
Perceptual-motor
Social-emotional (creativity)

Description: Use pieces of colored tape or scraps of contact paper to make a collage. Some tape comes with backing which peels off. This tape and pieces of contact paper are easier for a child to cut. Then he can peel off the backing. Some children can cut their own pieces of tape, or the teacher may help them cut some and stick the pieces to the back of their hands ready to be used. Stickers such as holiday seals, which must be licked, may also be used.

Materials: Gummed materials such as tape, contact paper, and seals; construction paper; and scissors.

Comments or Cautions: This kind of picture may also be made on cardboard, sandpaper, rectangles of wood, boxes, cups or flowerpots for special occasions, pencil cans for gifts, or folded construction paper for holiday cards. Ask local stores to save the ends of contact paper rolls.

A-21 Wax Paper Pictures

Uses: Small motor
Perceptual-motor
Conceptual (line quality and translucence)

Description: Put out twelve-inch squares of wax paper. Children can etch designs with fingernails, sturdy toothpicks, or nonworking ballpoint pens. They may enjoy folding, taping, or pasting wax paper.

If wax paper is mounted over colored paper, the designs show more clearly while being made and when exhibited.

Materials: Wax paper and sturdy toothpicks, orange sticks, or dry ballpoint pens.

Comments or Cautions: Observe safety limits of keeping toothpicks on the table and using them only on the paper. The table surface may need to be protected with newspapers.

A-22 Printing with Objects

Uses: Small motor
Perceptual-motor
Social-emotional (creativity)
Conceptual (patterns and two-dimensional form)

Description: Provide wooden spools, small blocks of different shapes, bottle caps, etc. (Spools are especially easy to handle and make interesting designs.) Encourage children to print by a simple demonstration of putting object into paint and then stamping it on the paper. Some children may become more readily involved in this activity by using a paintbrush handle to hold the spool.

Materials: Thick paint, paper, newspaper, smocks, wooden spools, and other suitable objects for printing.

Comments or Cautions: Children may be encouraged to explore using spools in a variety of ways--rubbing it over the paper, rolling it, etc.

Try to keep one group of objects for each color of paint to keep colors clear.

A-23 Mural Painting[1]

Uses:

Large motor
Social-emotional (cooperation with other children and creativity)
Conceptual (color)

Description: Tape a large piece of wrapping paper to the wall and let several children make a mural, using crayons, magic markers, or water colors. The size of the paper will depend on the wall space available and the number of children who will be working at once. If using paint, it is well to have the bottom of the paper come to the floor and the ends come at the corners of the room or a door, to keep paint off the walls. Paint also requires more supervision and paint in containers, such as a small juice can, which can be held in the hand--not left on the floor and kicked over.

Most of the time there should be no restriction on what is to be drawn, with each child drawing what he likes. However, older children might decide to do a representative mural; and some planning is then necessary ahead of time by the group.

Materials: A wide roll of wrapping paper (white if you can find it, otherwise brown), crayons, magic markers, and/or paint.

Comments or Cautions: Some supervision is necessary to avoid conflict when one child colors over another child's work. However, one goal of mural painting is to help children learn to work cooperatively, for example with two children deciding to work on one section of the paper. Therefore, it is better not to simply divide the paper into individual sections with lines unless it is absolutely necessary.

Some thought should be given to how the mural is to be displayed when complete. It may simply be left on the wall where it was done, shifted to a prominent position such as over the lockers, or placed in the hallway where visitors can admire it.

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[1] Also see *TTT-46, Outdoor Mural.*

A-24 Paper Towel and Cloth Dyeing

Uses:	Small motor Social-emotional (creativity) Conceptual (color mixing and patterns)
Description:	Children can experiment with color mixing and produce beautiful results at the same time by dripping food coloring onto paper towels, tissue paper, or cloth and watching it spread. Several colors can be used on the same piece.
Materials:	Paper towels, tissue paper, or cloth; food coloring and eyedroppers; or thin tempera paint and teaspoons.
Comments or Cautions:	Smocks are in order. Paper can be used for wrapping paper for gifts or can be laminated between two layers of contact paper for a mat or a picture. Paper towel dyeing can also be done by folding like a fan, fastening with string or rubber bands and then dripping paint on for a tie-dye effect.

A-25 Tie Dyeing

Uses:	Small motor Social-emotional (creativity) Conceptual (color, patterns, and sequencing)
Description:	Mature fours and fives can manage a tie-dyeing project with the help of a teacher, *who has tried the project before by herself*. If the whole class is involved, one large object works better than trying to dye 15 or more separate pieces. With a smaller group, children might bring tee shirts, scarves, or squares of cloth from home. Have a selection of different widths of rubber bands and let children take turns fastening rubber bands tightly around the material. If doing a sheet for window curtains or a wall hanging, three or four children could put on rubber bands at once. Use a very large pan with cold water dye, placed on a low table so that children can take turns stirring. When it is done, let children help rinse out excess dye and take off the rubber bands. The teacher may need to take off the first loop of each rubber band.
Materials:	Old sheet or other material, cold water dye, large pan, and stick or large spoon to stir with.

Comments or Cautions: Be sure children wear waterproof smocks for the stirring and rinsing parts of the operation. Children can be very proud of their project if it is actually put to use in the classroom. Tie-dyed material can also be used by children to make place mats to take home for gifts. In this case set in vinegar, or spray with starch and iron.

A-26 Nature Construction

Uses:
Small motor
Perceptual-motor
Social-emotional (creativity)
Conceptual (plants, seasons, texture, and three-dimensional form)

Description: Provide various kinds of containers to be used as bases, playdough or clay, and quantities of natural materials such as twigs and dried weeds. The nature materials may have been gathered on a walk by the children, or by the teacher. The types of materials can be varied depending on the time of the year. Some children will flatten the clay and use it as a base for a standing garden, others will press things into the flattened clay, and others will make three-dimensional sculptures. They should be left free to do as they like, rather than suggesting "Let's make gardens."

As a variation provide colored corn, beans of various kinds, acorns, sea shells, etc.

Materials: For bases--one- or two-quart milk cartons, cut off to be one inch high, small throw-away pie plates, sections of egg cartons, or pieces of stiff cardboard; to fill the bases--ordinary potters' clay or playdough; and nature materials such as very small sticks, twigs still in leaf or bloom (evergreens are especially good), small pine cones, dried weeds, dried leaves, pine needles, rocks, pebbles, pieces of bark, and wood.

Comments or Cautions: *If children gather materials themselves, be sure that nothing with berries is picked unless you know it to be nonpoisonous. Children should be observed very carefully to be sure that they do not put any of the materials in their mouths. Many more kinds of leaves and even twigs are poisonous than most people realize.*

A-27 Styrofoam Sculpture[2]

Uses:	Small motor Perceptual-motor Social-emotional (creativity) Conceptual (three-dimensional form)
Description:	Use squares or circles of styrofoam about ten or eleven inches across for bases, scraps of styrofoam in small sizes, and toothpicks. Make designs by inserting toothpicks into small pieces of styrofoam and then putting them into the base. If small pieces of styrofoam are not available, children can make sculptures by inserting pipe cleaners into the styrofoam bases and adding small pieces of colored paper, cloth, and electrical wire.
Materials:	Squares or circles of styrofoam about 10" x 12" x 1", small shapes of styrofoam used for packing, toothpicks or pipe cleaners, and small pieces of colored paper, cloth, or electrical wire.
Comments or Cautions:	Observe safety limits of keeping toothpicks at the table and using them only for the sculptures. Since styrofoam bases are somewhat expensive, the sculptures may be taken apart after exhibited; and the materials can be used again. *Be very sure children do not put styrofoam in their mouths or chew on it. If eaten in any quantity, serious problems can result.*

A-28 Wood Sculpture

Uses:	Small motor Social-emotional (creativity, frustration tolerance) Conceptual (three-dimensional form)
Description:	Collect from the lumberyard mill or from parents who do woodworking a variety of small pieces of wood. Provide heavy cardboard sheets about a foot square for bases and let children make sculpture with Elmer's glue.

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[2] See also *TTT-44, Three-Dimensional Sculpture.*

Materials: Small scraps of wood, cardboard bases, and Elmer's glue.

Comments or Cautions: *Avoid pieces of wood which are quite splintery, or let children sand them first with sandpaper blocks.*

This project can be used as a preliminary to woodworking with tools for the youngest children, but it can also be a separate project at any age. Be sure to provide enough scraps so that all the children can have a turn, and see that there is a safe place for projects to dry.

A-29 Embroidery

Uses:
Small motor
Perceptual-motor
Social-emotional (creativity and cooperation)

Description: Embroidery using a wide variety of materials can be a very satisfying creative project. Use yarn, embroidery floss, or string and a large blunt-ended needle (metal or plastic) for embroidering on meat trays, egg carton tops, burlap, other loose material in embroidery hoops, or netting of various kinds stapled to a heavy cardboard frame. Scraps of cloth or buttons may be sewed on. Cloth or meat trays will usually be a permanent take home project; fish net on cardboard frames may have the yarn removed and can be used over and over.

Materials: See above, and see *TTT-27, Sewing Frame.*

Comments or Cautions: Help children learn not to loop thread over the edge.

A-30 "Mobiles"

Uses:
Small motor
Perceptual-motor
Social-emotional (creativity)

Description: While the term "mobiles" originally referred to hanging structures with several parts balancing each other, we use the term in the preschool to refer to any art object which the children put together and hang from a string or a wire.

Almost any kind of paper or small object which can be strung on yarn, string, wire, or plastic lacing can be used for a mobile. Objects may be strung just on one string and hung from ceiling, lighting fixture, or curtain rod; or a stick or flat piece of wood or cardboard can be used with several objects or strings of objects hung from it. Older children may make mobiles in the traditional way using wires and strings for balancing objects. Two coat hangers wired together at right angles make a good base for a simple mobile.

Materials: Yarn needles; string, yarn, or plastic lacing; pieces of cut straws to space out papers and objects on a string; paper and cardboard of any kind, cut or torn into any desired shapes by teacher or child; and pieces of egg cartons, pine cones, leaves, etc.

Comments or Cautions: There is no limit to the kinds of materials and ideas which can be used in mobiles, and the activity may be used over and over with the introduction of new materials.

If wire or coat hangers are used for mobiles, supervise use carefully to avoid scratches and eye injuries.

EXAMPLES OF SPECIAL PROJECTS

A-31 Nighttime Picture

Uses:
Small motor
Perceptual-motor
Social-emotional (fear of the dark)
Conceptual (time, astronomy)

Description: Read a story about nighttime such as *While Susie Sleeps* by Nina Schneider. (This book is especially appropriate because it is printed on a black background.)
Provide each child who wants to draw a nighttime picture with a piece of black or dark blue paper and white chalk. Gummed stars would also be provided, as well as moons cut from aluminum foil (use Elmer's glue).

Materials: Appropriate nighttime story, black or dark blue construction paper, white chalk, and (optional) aluminum foil and gummed stars.

Comments or Cautions: Avoid the idea that a specific representation is expected. Many children may produce a "nighttime design"--not a picture. If appropriate the teacher may talk about how nighttime sounds, feels, etc. Be alert to fears which may be expressed or reinforced through this kind of activity, and be ready to lend a listening ear and positive comments if necessary.

A-32 A Room of Your Own

Uses:
Small motor (cutting and pasting)
Social-emotional (self-concept)
Conceptual (household objects)

Description: Cut pictures from magazines of familiar objects found around the household. Choose the pictures carefully keeping in mind items that would be attractive and interesting to your children. Let each child choose a piece of colored construction paper or wallpaper and make a "room of his own" choosing from the cut out pictures. Include collage materials. For young threes the pictures might already be cut out, while older children would be provided with pages to cut up themselves. Children will rarely have the patience to look for and tear out pages themselves.

As a variation, have pictures of animals for "a zoo of your own"; food, silverware, and plates for "your dinner"; or clothing for "your clothes closet."

Materials: Pictures of household furniture, people, toys, etc., cut from magazines or mail order catalogues; colored construction paper or wallpaper samples; collage materials; and paste.

Comments or Cautions: Duplicates of especially attractive pictures should be provided. Many children will simply want to use the materials as with any collage, and the teacher should not push the "room" idea beyond the original suggestion.

A-33 Toy Money

Uses:	Small motor Perceptual-motor Conceptual (money and size differences)
Description:	In connection with a dramatic activity such as playing store, children may make both bills and coins from heavy green paper and silver and bronze cardboard. Teachers must do the difficult cutting on the cardboard, but children can trace around coins and (if they wish) draw on the play coins and bills after they are cut out. Real money should be available for children to look at (with supervision to avoid temptation).
Materials:	Green paper, lightweight bronze and silver cardboard, pencils, sharp scissors (for adult), and children's scissors.
Comments or Cautions:	The major purpose of this activity is to provide a situation in which children will look carefully at money and the teacher can use the proper terms for coins naturally and frequently. The activity should be suggested only to children who are interested in using play money in their play, and they should be free to be creative in putting their own designs on the money even if they bear no relation to real money.

A-34 Tracing Around Children's Bodies

Uses:	Large motor Social-emotional (self-concept and attention span) Conceptual (body parts)
Description:	The child lies down on a large sheet of brown wrapping paper, and another child or the teacher traces around him with magic marker or crayon. The figures are then cut out by child, if possible, or by the teacher; and the child then decorates with crayons. During the activity the teacher can ask about the different parts of the body. Older children may glue on pieces of cloth, buttons, or zippers.
Materials:	Large roll of brown wrapping paper, magic marker, crayons, and blunt scissors.

Comments or Cautions: Children will usually add details of face and clothing, but they should be free to do whatever they like. The teacher should be careful to avoid praising the most realistic or otherwise stereotyping the results.

Some mature children will want to draw on a complete set of features and clothing; others will be able to do much less. If they are put up on the walls, all should be displayed regardless of the quality of the work done on them. To take home, figures may be rolled up, wrapped in overlapping sheets of newspaper and secured with a rubber band.

Sometimes a child will not want to lie down on the paper. As an alternative it can be tacked to the wall and he can stand in front of it.

A-35 Face Picture

Uses: Small motor
Conceptual (body parts and emotions)

Description: Each child starts with an oval cut from construction paper. He can choose from a variety of facial features cut from magazines. Encourage the use of specific names of the features. Talk about expressions on the faces and ask the children how their face feels. (Does it look happy, sad, angry?) Be prepared that some young children may not recognize facial features out of context. Some confusion may be avoided if the facial features are kept in separate boxes when put on the table (nose box, eye box, mouth box, ear box, etc.).

Materials: A variety of facial features cut from magazines, colored construction paper, paste, and some collage materials for hair, etc.

Comments or Cautions: Some children will want to use parts as an abstract collage. If so, do not push them to make faces.

A-36 Cutting Out Footprints and Handprints

Uses: Small motor
Social-emotional (self-concept and attention span)
Conceptual (size, growth, and body parts)

Description: The teacher, another child, or the child himself traces around his foot (with or without shoes) and/or his hand. The child cuts out the prints and colors them if he likes. These can be labeled with each child's name and used for a bulletin board or class mural, or they can be taken home.

As a teaching tool regarding age and size difference, teachers', janitors', or mothers' and fathers' handprints and footprints may be added, as well as those of visiting babies or brothers and sisters of various sizes.

Materials: Heavy colored or white paper and magic markers or crayons.

Comments or Cautions: One class thought it hilarious when footprints were taped up the wall and onto the ceiling. This could lead to conversations about gravity or the fun of pretending.

A-37 Hats and Masks

Uses: Small motor
Social-emotional (role playing and attention span)
Conceptual (body parts)

Description: To make hats, fold a piece of 9" x 12" construction paper horizontally. Cut or tear on the fold line. Staple or tape the pieces together at the ends. Fit to child's head, then hold it so he can staple or tape the two remaining ends together. Help child do as many of the steps as possible. Let the child decorate with crayons, etc., before final fastening together. He may fringe top and add decorations which indicate specific use.

For goggles, mask, etc., use one strip of paper with a narrower strip or string at the back. Help decide where opening should be by actual trying on. Show child how to fold and cut. (This opens up a wide variety of discoveries for some children.) Tape is easier for child to cut if sticky end is fastened to table and held taut. Goggles can also be made from plastic soft drink holders.

Materials: Paper, crayons, paste, and a stapler.

Comments or Cautions: Help child to develop his own ideas and skills, as simply as possible. "Let's see what you can do"--avoid stereotypes such as Indian feathers but encourage as many different ideas as possible, valuing each child's efforts. (Might add eyebrows, etc., to a mask.)

A-38 Kites

Uses: Small motor (cutting and tying)
Social-emotional (attention span)
Conceptual (wind, weather, and two-dimensional form of diamond)

Description: Draw a diamond shape on a piece of construction paper for the child to cut out and color. Older children can draw their own which need not necessarily be this shape. Firmly tape a piece of yarn or string two or three feet long to one end; or punch a hole, reinforce with reinforcement ring (sold for use with notebook paper), and let child tie string himself if he can.

Children can then run outdoors with the kites. On a very windy day they can stand and hold them while they blow in the wind, or use them inside in front of a safely enclosed electric fan.

Materials: Firm paper, scissors, paper punch, crayons (if child wishes), tape or notebook ring reinforcements, and string or yarn in two-foot lengths.

Comments or Cautions: Let child do as much of the cutting as he possibly can and be responsive to ideas he may have. Perhaps he will make a bird, fish, or a free form instead. If children are able, let them cut tape and string.

Be sure the child has opportunity to use the kite, but warn ahead of time that it will only flutter behind when he runs, not go high in the air. They can also be placed on a springtime bulletin board after flying.

A-39 Holiday Decorations

Uses: Small motor
Social-emotional (creativity and responsibility)
Conceptual (various holidays)

Description: Holiday decoration projects are often more the teacher's work than that of the children, possibly because parents and visitors so often come to view them. As with all other art projects it is important to make the production of decorations fun and simple, within the child's capabilities. Whenever possible individual differences and creativity should be allowed. Below we list just a few suggestions without detailed directions. Beyond these why not ask the children what kinds of decorations they think appropriate?

For any holiday. Pictures, collages, mobiles, or paper chains using appropriate colors of paper. Glass wax painting on windows, using appropriate colors. (See *A-13, Glass Wax Painting.*) Flowers, leaves, or evergreen branches depending on time of year.

Halloween. Paper bag costumes that the children make by cutting arm and neck holes in the largest size grocery bags and decorating them. When accompanied by a child-made hat this produces a costume a child can be proud of. (See *A-37, Hats and Masks.*)

Thanksgiving. To postpone for a year the turkeys which children will be making for the rest of their school days, bring in small bowls and containers; dried leaves and weeds; and fruits and vegetables that will not perish quickly such as apples, squash, dried corn, gourds, and citrus fruits. Let children arrange and rearrange centerpieces for the tables.

Christmas. Pine cones with glue and glitter, tree branches dipped in a beaten mixture of Ivory snow, playdough ornaments (molded and baked), and anything at all which children want to string and hang on a tree (add pieces of aluminum foil for a shiny effect).

Hanukkah. Provide strips of paper for pasting "candles" onto paper or windows.

Valentines Day. Paper snowflakes pasted to colored paper or colored paper hearts with flowers from seed catalogues pasted onto them.

Easter. An egg tree made by collecting clean halves of eggshells from parents, decorating with paint or glitter, and inserting pipe cleaners to hang them on a small branch or tree. (If the children are ambitious, it can be a big egg tree.)

Materials: As listed.

Comments or Cautions: Keep it simple and fun. For young children holidays are still fresh and interesting; let's keep them that way.

A-40 Gifts to Make

Uses:
Small motor
Social-emotional (creativity and self-concept)

Description: Children enjoy making gifts for people they love; it adds to their pictures of themselves as competent and worthwhile. However, many times the same problems arise as with holiday decorations, discussed above. Because the product will go home, teachers often become overly concerned with the product instead of the child's feelings about it. To avoid this, choose simple projects within the child's capabilities, whenever possible give a choice of two or more, and provide alternate ways of doing each. The more different from each other the results, the more successful the activity.

A few suggestions:

Cookies made and decorated by the children, sent home in boxes which they have also decorated.

Paperweights made from rocks picked up on walks, washed and decorated with paint or glitter. Cover with polymer (Modge-Podge) to seal. (Available at art supply stores.)

Matchboxes decorated with colored acquarium gravel stuck into playdough (one part salt to one part flour).

Nature pictures using meat tray base, dough the consistency of pancake batter (three parts salt to one part flour) and any nature items such as seeds, small cones, dried weeds, corn, etc. It will dry in about three days and can be punched with holes for hanging on the wall.

Snapshot of the child in a cardboard frame decorated by the child. (This is probably the one gift which makes everyone happiest.)

Materials: As listed.

Comments or Cautions: Can be wrapped in dyed paper. (See *A-24, Paper Towel and Cloth Dyeing.*)

A-41 Texture Tapestry

Uses:
Small motor
Social-emotional (creativity and cooperation)
Conceptual (textures)

Description: As a cooperative project teachers and children may use a backing of corduroy or other material to make a texture tapestry to hang on the wall. Materials of a variety of textural qualities are glued, sewn, or stapled on to the corduroy backing. Some suggestions are Saran Wrap for smooth; sandpaper for rough; styrofoam meat carton, quilted fabric, or terry cloth for bumpy; adhesive tape for sticky; velvet for soft or fuzzy; and fur for furry.

Encourage the children to use a variety of their own expressions when describing the material. Keep in an accessible place so children can touch as they walk by. As a variation a tapestry may be made with pockets to hold scissors, stapler, scotch tape, etc.

Materials: A variety of textured materials, thread, and staples or glue.

Comments or Cautions: *Supervise use of stapler.*

Chapter 14
Table Activities

Introduction

This chapter contains activities which will be used in fairly quiet play by one child or more. The activities usually have as a primary purpose the teaching of small motor skills, perceptual-motor skills, or concept formation, though they may serve other functions as well--such as encouraging social interaction and increasing attention span. (Art activities, often used for these purposes, are described separately in Chapter 13.) Because table activities often serve more than one purpose and because many teachers like to set up special areas or times for their use, they are grouped together in one chapter rather than divided into small motor, perceptual-motor, or concept activities. In most groups some table toys will always be available during free play, and teachers will often put a few onto the tables during this time to encourage their use.

The teacher should try to keep the needs and interests of each child in the group in mind in deciding which table toys to put out on the shelves or tables, but there should never be so many that the children cannot find what they want. Plastic or cardboard shoe boxes with pictures of the contents on the ends are good ways to store many such activities. It is essential that pieces of each activity remain together. While it may momentarily serve creative needs for children to use puzzle pieces for cooking as soup or large playing cards as frisbees, in the long run it is too frustrating to hunt for missing puzzle pieces and to sort Lego or Tinker Toys out of the dress-up box to be worth it.

Table toys should stay at the table (or wherever thay are to be used), and each box must be returned to the shelf before another is taken. Exceptions, of course, could be made when the contents of two boxes are needed--for example, table blocks to make houses for the clothespin dolls.

Although in many cases teachers may allow children to use table toys on the floor or outside on the sidewalk instead of actually at a table, it is best to have some specific limits within which to work--a towel, tray, individual flannelboard, piece of cardboard, or taped off area. For activities with many small pieces, a towel or piece of cloth makes it easier to return the pieces to the box (with the teacher's help). In fact even at a table it is often useful to use such methods for setting boundaries to avoid loss of pieces and confusion as to which pieces belong to which puzzle.

The number of different types of table toys available commercially is almost endless. Unfortunately, many are poorly made and inappropriate, or delightful but expensive. Since many can be improvised from junk, it may be best to leave a relatively small budget for such toys in comparison with the budget for outdoor equipment, books, and records. However, it is important to be aware of the many different functions which table toys serve and to have a variety of levels of difficulty within each type, whether commercial or homemade. In observing children working with table toys, the teacher should be alert to indications that a child may need easier or more difficult ones and be ready to buy, make, or borrow appropriate ones as needed throughout the year. (This is an example of the need for a petty cash fund.) Table toys should include the following types.

Construction toys. We suggest purchasing only a few types of construction toys, with enough pieces so that several children can play at a time, rather than having several small sets of various toys. This decreases problems with taking turns, increases cooperative play, and provides for more ambitious projects. Lego and Tinker

Toys are good choices for mature fours and fives, but difficult for most younger children who do better with Giant Lego or other simpler sets. All ages enjoy table blocks and use them for a variety of purposes.

Puzzles and formboards. A variety of puzzles and formboards are essential, whether commercial or homemade. These are discussed more fully under *T-1, Puzzles and Formboards.*

Perceptual-motor toys. Each group should have a variety of perceptual-motor toys available on the shelves at all times, but they may be rotated between classes for greater interest and economy. They should include:

1. Toys primarily for manipulation such as beads, pegboards. and form boxes.
2. Those for making designs, copying, and matching, such as parquetry blocks, Kohs blocks, and homemade matching games.
3. Homemade and commercial materials for practice in sorting.
4. Concept materials for practice with weight, sounds, color, texture, and number.

Group games. Games such as dominoes, lotto, and board games which children may use for individual play or in small groups should be available for fours and fives, and for threes if the teacher feels they are ready.

The first group of activities in this chapter teach primarily small motor and perceptual-motor skills, with the most basic of these activities listed first. Activities involving copying, ordering, sorting, or matching comprise the second section of activities in the chapter, and are grouped together because of the theoretical importance of these activities to intellectual development.

(See *Copying Forms*, *Matching*, and *Ordering* for theoretical discussions.) The final group of activities includes those that may be played as games by small groups of children with or without a teacher's help. Many of these games also may be used in other ways by individual children.

SMALL MOTOR AND PERCEPTUAL-MOTOR ACTIVITIES

T-1 Puzzles and Formboards

Uses:	Small motor Perceptual-motor Social-emotional (attention span) Conceptual (two-dimensional forms and a variety of other concepts)

Description: Formboards are a special type of puzzle in which individual forms are to be fitted into holes; they are often used in intelligence tests. The description below of the use of puzzles applies to formboards as well.

Because they are particularly good for teaching small motor and perceptual-motor skills and because most children enjoy them, puzzles should be frequently used in any classroom. However, three conditions must be met, if they are to be used effectively. First, there must be a range of difficulty so that every child can find puzzles which are challenging--not too easy, and not too hard. Within each level of difficulty there should be a number of different puzzles available, and new ones should be added during the year (classrocms can trade for greater variety). Since wooden puzzles from school supply houses are expensive, most schools will want to add homemade and cardboard puzzles from the dimestore to give a wider selection.

The difficulty of a puzzle is determined both by the number of pieces and the way in which the pieces are cut. Types of puzzles are described below in order of difficulty.

1. Three- and four-piece inset puzzles in which the whole form or puzzle piece fits into a hole (this may be a formboard or may have picture of objects). These are often available in the dimestore as well as in wooden puzzles.

2. Simple homemade puzzles in which a picture is pasted onto a piece of cardboard and then cut in half, thirds, or quarters. If the picture is to be cut into more pieces, it is usually better to make it with a frame to hold the pieces together. To help children who have difficulty at this level, it is helpful to have a second picture to which they can refer as they work. This can also be done with more complicated homemade puzzles. Another way of helping is to trace around the pieces on the base of the puzzles, or onto a piece of cardboard if the puzzle comes without a base, so that the pieces can be matched to the form below.

3. Puzzles with more pieces that are cut around actual forms, for example, a child's head or the smokestack of a boat cut out separately. Most commercial wooden puzzles are made this way, and occasionally cardboard puzzles of this type can be found. It is difficult to make this kind from cardboard, but it can be made from a picture glued onto masonite and cut with a jig saw. (This is a good project for a grandfather with good motor skills, and lots of time.)

4. Jigsaw puzzles with pieces that have no relationship to the picture. Many of these are available in cardboard with frames within which to work. Most of the pictures run to poorly drawn cartoon characters, but with luck more acceptable ones can be found. These can also be homemade if a jig saw is available.

A second condition for effective use of puzzles is that they should be stored in such a way that they can easily be taken down and put back by children. If puzzle racks can possibly be budgeted, they are a worthwhile long-term investment. If not, teachers can put out a varied selection of puzzles on the top of a low cabinet each day, changing them regularly to catch the children's interest. Homemade puzzles can be kept in envelopes with a rough sketch of the puzzle outside.

Third, as mentioned in the introduction to this chapter, it is essential to keep puzzle pieces at the table and to expect children to replace each puzzle before going on to another activity. If one of our educational goals is to teach children to gain satisfaction from completing a project, we should not have puzzles with missing pieces in the room. If, even with care, a piece is lost, it can be replaced by cutting a shape from heavy cardboard. With wooden puzzles, smooth foil or plastic wrap into the hole, fill it with plastic wood, and allow to dry. The new piece can then be colored to approximate the missing piece. While not very satisfactory, such substitute pieces at least give a child a sense of completion and salvage puzzles which should otherwise be thrown away.

Materials: A variety of puzzles, homemade and commercial.

Comments or Cautions: If a teacher is in the habit of making simple puzzles, it is easy to save pictures from magazines on various topics (two copies when possible) and to make them into puzzles when needed. The teacher might bring out two or three new puzzles whenever a new concept is introduced, and use pictures relating to the special interests of individual children. A child who is not very interested in any perceptual-motor activity may be intrigued by the chance to put together a picture of something he is especially interested in--whether it be dogs, airplanes, or food.

Children will usually find their own level of difficulty in puzzles, but if a teacher sees that a child is becoming frustrated, she may want to help with that puzzle and then suggest an easier one. (See *Problem Solving.*) If on the other hand, a child is using only puzzles which he finishes with ease, she may suggest or bring into the classroom more difficult ones.

T-2 Name and Word Puzzles

Uses:
Perceptual-motor
Language (words and letters)
Social-emotional (self-concept and attention span)

Description: Use small ceramic tiles available from flooring companies often for free (about one inch square). If not available, use heavy cardboard squares. Print the child's name using a separate square for each letter. Also print the child's name on the outside of an envelope and put his tiles inside. The child can then take out the tiles as often as he likes and match them to the outside of the envelope.

The same technique can be used for other words when children become interested in learning words. Let children decide what words to write.

Materials: Small ceramic tiles or squares of firm cardboard, envelopes sturdy enough to hold tiles (close with paper clip), and a magic marker.

Comments or Cautions: You may begin with a child's first name, then add middle and last names. When a child knows his name, he may not need to match letters on outside.

T-3 Pegboards

Uses:
Small motor
Perceptual-motor
Conceptual (numbers and line quality)

Description: Pegboards and pegs are available in a variety of sizes from school supply houses and are generally inexpensive. However, as a work project for volunteers with access to a shop, or as a project for a high school shop class, pegboards can be made by drilling holes in squares or rectangles of wood and cutting off pieces of dowels for pegs. All parts need to be sanded. Acoustic tiles with golf tees can provide a cheap and simple version. As a variation, make wood bases with round-headed nails arranged in a circle, square, or other geometric shape for stretching rubber bands.

The type of pegboard used will depend on the ages and motor skills of the children. For the youngest, start with boards with only a few holes and pegs one-half inch in diameter or larger. Most fours and fives are ready for one-hundred-hole boards with pegs one-quarter or one-eighth inch in diamter. Pegs with heads are available for easier grasping.

Pegboards can be used in a variety of ways. Children may simply enjoy inserting pegs randomly, or they may make up their own patterns. Rubber bands may be stretched from one peg to another. Perceptual-motor skills may also be taught by having the teacher make a simple pattern to be copied on another board. Children who are interested in counting may want to count sticks, and those most advanced in number skills can explore the relationships between ten and one hundred.

Materials: Rubber bands and a variety of pegboards and pegs. (See *TTT-11, Rubber Band Board.*)

Comments or Cautions: Like all activities with many parts, sturdy boxes with firmly fitting lids are necessary for storage.

T-4 Stringing Objects

Uses:
Small motor
Perceptual-motor
Conceptual (three-dimensional form)

Description: Stringing small objects is an activity which children from two through school age enjoy. The teacher merely needs to provide interesting objects at the proper size for the dexterity level of the children in the group, which will vary a good deal from one child to another.

Materials: Wooden or plastic beads; short pieces of plastic drinking straws; various forms of macaronis (not curved ones which will not allow needle or tip of string to pass through); and plastic lacing, shoe strings, or blunt needles and yarn.

Comments or Cautions: For the most skilled children, beads from old necklaces, buttons, and regular needle and thread may be used. Place beads and other materials in flat containers such as styrofoam meat trays so they can be picked up easily.

T-5 Plastic Lacing

Uses:
Small motor
Perceptual-motor
Conceptual (line quality)

Description: Children lace plastic string through the holes in pieces of pegboard. The lacing will need a knot or piece of tape to secure it at the end. If interest persists, a variety of colors could be added. A vertical "screen" of pegboard or a board constructed with screw eyes might be used with children working from both sides.

Materials: Plastic lace and a pegboard or eye-board. (See *TTT-7, Pegboard Easel or Stringing Board.*)

Comments or Cautions: Children seem to find more purpose in a piece of material (in this case pegboard) cut into specific shapes like circles or squares rather than a scrap or discard. As a variation, provide pieces of soft polyfoam with holes (available as junk from upholstery shops) and plastic lacing or yarn and needles.

The stiffness of plastic lacing makes it easy for children to manipulate. Letting children make their own patterns is usually best; but for the child with perceptual-motor problems, chalk lines may be drawn for him to follow.

T-6 Nuts and Bolts

Uses:
Small motor
Perceptual-motor
Social-emotional (attention span and frustration tolerance)

Description: First introduce plastic nuts and bolts (available in toy catalogues), then use real ones from the hardware stores. Place an assortment of different sizes of nuts and bolts in a flat plastic dish or box. Encourage children to fit the correct size nuts on the matching bolts. They also may be sorted according to size and type. For younger children use only a few of each of widely different sizes; add more as children gain in ability to discriminate.

Materials: Plastic nuts and bolts, an assortment of matching nuts and bolts (include wing nuts for variety), containers for storage, and low containers for sorting.

Comments or Cautions: This is a good activity for a child who is waiting to use some equipment, or has finished picking up, etc. It is easy to take out, use, and store.

As with any toy having small pieces, be sure that children do not put them in their mouths.

T-7 Fitting Lids on Containers

Uses:
Small motor
Perceptual-motor
Social-emotional (attention span and frustration tolerance)

Description: A bag full of containers and lids will provide many opportunities for children to develop small muscle coordination. The child can try to fit lids on the proper container. He could also put different objects in the containers and play a "guess what this is" game with other children. For mature children the containers and lids could be very close in size with only the proper one fitting. This also requires visual discrimination. (See also *TTT-58, Bottle Board.*)

Such containers can also be used for storing crayons, buttons, beads, etc.

Materials: Any container without sharp edges such as cans--Awake, coffee cans, cat food cans, film containers; boxes--jewelry boxes, cottage cheese, sour cream, oatmeal; bottles (preferably plastic)--Clorox, liquid detergent, fabric softener, shampoo; and plastic dishes--margerine.

Comments or Cautions: *Be sure that all containers are thoroughly washed before use and that none have sharp edges or points.*

T-8 Paper Punch

Uses:
Small motor
Conceptual (weight, light-heavy, float-sink)

Description: Let children punch out holes using a paper punch, then put them into a clear plastic bottle half full of water which can be shaken to make a "snowstorm." Some children will just be interested in punching to see how many holes they can make. Trying to pick up the individual circles is difficult, but gives good small motor practice.

Materials: One (or preferably more) paper punches, lightweight paper in various colors, and plastic detergent bottles.

Comments or Cautions: As a variation put a penny or a rock also into the bottle and talk about the difference in the way the paper and rock act.

Many children's hands are neither large nor strong enough to use some paper punches. Try to buy or borrow one which is easy to use and try it out informally with some of the smallest children before you bring it in as a full-fledged project. Paper circles can be very difficult to clean up, so show the children how to work over a sheet of paper, and how to fold the paper to slide the punches into the plastic bottle. (This will take some supervision.)

T-9 Sewing Cards

Uses:
Small motor
Perceptual-motor
Social-emotional (attention span)
Language (letters)
Conceptual (numbers and two-dimensional form)

Description: Draw letters, numbers, or forms with clear, dark magic marker on cardboard squares about 4" x 6" or 5" x 7". Then punch holes along the lines large enough for children to see easily. (A simple way to do this is to put the card down on a surface such as a sheet of styrofoam and use an ice pick to punch the holes.) Children then use yarn and large blunt needles to outline the letters. As children gain skill, letters etc. may be traced much more lightly, and finally outlined only with holes.

Materials: Sewing cards made from cardboard such as shirt cards or filing folders, blunt upholstery needles, and yarn or colored string.

Sewing cards with larger holes, using shoe strings rather than yarn are also available commercially, usually showing pictures of animals or household objects.

Comments or Cautions: Like all types of activity which can be used creatively, children should not be introduced to this project until they have had plenty of opportunities to use sewing as a free medium. (See *A-29, Embroidery.*) It will appeal to some children and not to others, but boys as well as girls will often enjoy making and "collecting" a whole series of cards. In each case the child should have been introduced to the letters, numbers, and forms in other situations before this activity.

T-10 Typewriter

Uses:
Small motor
Perceptual-motor
Language (letters)

Description: Expensive "talking typewriters" have been used as tools for teaching reading, but even a discarded typewriter many years old can be educational as well as fun for children. For younger children it should be available only when a teacher can be nearby to give help, since rolling the paper in and dealing with the keys which stick together or the margin setting requires frequent help. However, with older children who can remember the simple rules of use, the typewriter could be available for use at any time when the noise is not a problem.

Children may use it just for the pleasure of seeing something appear on the paper when they push a key. Others, who are interested in learning the names of letters, may ask the teacher the name of a letter and then proceed to make row after row of the chosen letter. A few will ask the teacher to type something for them and then copy it below, and an occasional child may make elaborate pictures with letters.

Materials: Typewriter, and newsprint or 8 1/2" x 11" scratch paper.

Comments or Cautions: Enforce as much as possible the rule of hitting one key at a time, since too frequent or violent piling up can bend the keys.

Do not push children who are interested only in the motor aspects to pay attention to the letters, but be alert for the child who is ready to take the next step.

T-11 Dropping Objects into Boxes and Cans

Uses: Small motor
Perceptual-motor
Conceptual (color matching)

Description: The child stands, sits on a stool, or kneels on a chair, and drops objects (clothespins, large beads, etc.) into a can or a box on the floor. Older children might count the number which they get into the containers. Objects can also be of two or three colors to be dropped into matching colored containers. Another variation is to drop objects into a tin coffee can, a wooden box, and a cardboard box and listen for sound differences.

Materials: Various containers such as boxes and cans; and objects for dropping, such as small toys, large beads, clothespins, etc.

Comments or Cautions: The traditional "clothespin in the milk bottle" game is too difficult for young children. They need containers with openings several inches wide if they are to drop objects from a height.

T-12 Sweet Patootie Dolls

Uses: Small motor
Conceptual (body parts, patterns, and fact-fantasy distinctions)

Description: Read *The Sweet Patootie Doll*, by Mary Calhoun. Then give each child a real sweet potato. Put out pieces of fabric of a variety of textures and patterns. Children can wrap in a piece of fabric and pin. Discuss parts of face. Let children make faces with magic marker or show adult where to mark.

Materials: Sweet potatoes, pieces of fabric, safety pins, magic marker, and *The Sweet Patootie Doll*, by Mary Calhoun (William Morrow and Company, New York, 1957).

Comments or Cautions: This takes quite a bit of adult supervision and help even for four-year-olds. Children should be encouraged to make their dolls different from ones in the picture or already made. Suggest making block houses, beds, etc. for dolls.

T-13 Dressing Small Dolls

Uses: Small motor
Conceptual (patterns and textures)

Description: Use very small three-inch boy and girl dolls such as "Pee Wee" or "Troll" dolls. Provide swatches of materials with different textures and patterns such as plain or solid, stripes, plaids, checks, dots, and prints. Cut them about 5" x 2" with slits for armholes leaving about a third of the swatch to wrap around as a closing.

Instead of providing dolls, let children mark a face on a nonspring clothespin. Slit a small hole (large enough for the head of the clothespin to go through) in squares and circles of fabric. Provide rubber bands, pipe cleaners, or plastic bag ties for belts and playdough or clay as a base.

Materials: Small dolls or nonspring clothespins; a variety of fabrics including different textures and patterns; magic markers for drawing faces on clothespins; rubber bands, pipe cleaners, or plastic bag fasteners to be used as belts; and playdough or clay to make bases for clothespin dolls. Have other materials available for those children who wish to go further in dressing their dolls--buttons, lace, ribbons, cotton, yarn for hair, and felt for hats. A good book for initiating this activity and creating interest is *Polka Dot* by Charlotte Steiner. (Doubleday, "Junior Books," 1947.)[1]

Comments or Cautions: Keep as a special activity at a table, on a blanket, or in some special place, unless children want to use the dollhouse.

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[1] Out of print; try library.

COPYING, MATCHING, SORTING, AND ORDERING ACTIVITIES

In setting up projects in which children copy the teacher, a model, or another child, the teacher should emphasize that it is fun to copy sometimes, but that most of the time it is more fun to decide for oneself what kind of a pattern, picture, or project to make. If both teacher and child have this attitude, children will gain perceptual-motor skills and enjoy themselves in these activities.

The same kind of attitude is desirable in matching and sorting activities. The child should be able to feel that he can use any principle he likes in putting things together that belong together; the important thing is to think about the problem and have a reason for one's decision.

Note that for all these tasks there are many more possible activities than we have listed. Be imaginative in developing games involving copying, matching, sorting, and ordering.

T-14 Setting a Picture Table

Uses: Conceptual (familiar household objects and foods)

Description: Cut from magazines pictures of many things that might be found on a table. Include utensils, plates of food, serving dishes, pitchers full of juice, milk, glasses, and other good pictures. Use a table in the room and let the children set the table using the pictures. Try to have enough so each child that is participating in this activity will have his own place setting. Discuss the kinds of food that the pictures represent. Concepts of breakfast and dinner could follow. The children could pretend to eat this meal and ask for the different foods to be passed, if they like.

As a variation some pictures of items not used at the table could be offered to let children tell why they are not suitable.

Materials: A variety of pictures of things found on a set table, pictures of a few items that would not be found on the table, and a table.

Comments or Cautions: Try to get pictures which are roughly the proper size. Try this with a small group of children.

The teacher may want to put the pictures into a box and draw them out one at a time and ask the children if they belong on the table. Let the discussion of the concepts follow naturally. Start with a few items and work toward many depending on the children's attention to this activity.

T-15 Fabric Sample Box

Uses:
Small motor
Perceptual-motor
Conceptual (textures and patterns)

Description: Paste, tape, or staple various fabrics onto pieces of tagboard. Include as wide a variety of interesting textures as possible--fur, velvet, wide and narrow wale corduroy, dotted swiss, satin, faille, etc. as well as different colors and patterns such as stripes, plaids, dots, and prints. Children may enjoy just looking at and feeling them or matching these by texture, color or pattern. Use at least two samples of each. (It is not necessary to paste to tagboard; however, this prevents wrinkling and loss of shape.) Keep samples in a special box.

Materials: A variety of fabrics with interesting textures; tagboard; scissors; paste, glue, or stapler; and a box for storage.

Comments or Cautions: Older children may help prepare the materials for the box by pasting or taping them to cardboard. If they use the stapler, supervise carefully.

T-16 Tape Patterns

Uses:
Small motor
Perceptual-motor
Social-emotional (following directions)
Conceptual (two-dimensional forms)

Description: Sitting at a table with a few children, cut out strips of tape about three to six inches long, one strip for each child. Help each child fasten it to the table sticky side up with two smaller pieces of tape. Using small pieces of colored construction paper, previously cut into a variety of shapes, make a pattern on your tape; for example, start with a circle, below that a small triangle, then a square, and repeat. Ask the children to make a pattern on their tape just like yours. A variation would be to use small objects such as nature or collage materials. These patterns could then be taped together in a long string and hung or taped to the wall.

This activity can, of course, also be used creatively with free choice of materials.

Materials: Scotch tape, masking tape, or colored sticky paper; a variety of small shapes cut from colored construction paper; and nature or collage materials.

Comments or Cautions: Limit the number of children who work on this activity at one time.

T-17 Matching Pictures to Objects

Uses:
Small motor
Perceptual-motor
Conceptual (household and miscellaneous objects)

Description: In a shoe box put a variety of small objects easily found in the nursery school or home. Look through magazines, catalogues, or inexpensive picture dictionaries for pictures of the objects. (It may be easier to find pictures first and choose objects to match.) Glue these pictures on pieces of tagboard or shirt cardboard and store with the objects in the shoe box. One child or two can simply play at matching; or if played as a table game, the objects are put on a tray and the pictures passed to the players. Each child in turn chooses an item from the tray that matches a picture he has.

Materials: Objects with corresponding pictures such as spool of thread; small toy animals; small toy cars, boats, airplanes, etc.; small dolls; plastic fruits or vegetables; coins; feather; stone; sponge; and silverware. The possibilities are endless.

Comments or Cautions: Tell the children that pictures are of the same *kind* of object, but not necessarily an exact match, to avoid confusion if colors, size, etc. are not the same.

T-18 Matching Outlines to Three-Dimensional Objects

Uses:
Small motor
Perceptual-motor
Conceptual (two-dimensional and three-dimensional form)

Description: Using a variety of three-dimensional objects found in the room, trace around the objects on colored construction paper. Mount the silhouettes on pieces of tagboard. Put the three-dimensional objects and the silhouettes on the table and see if the children can match the objects to the outlines.

Materials: Tagboard, colored construction paper, paste, scissors, and a variety of three-dimensional objects. The objects may include a small doll, pieces of doll furniture, pencil, crayon, cup, sunglasses, spoon, forks, etc.

Comments or Cautions: Start with objects which can be easily matched and work toward ones which require the child to lay the object on the outlines to be sure it matches. For example, use two sizes of forks, a long and a short pencil, or two dolls--one with a dress and one without. Children may enjoy watching the tracing process.

T-19 Matching Game

Uses:
Small motor
Perceptual-motor (position in space)
Social-emotional (attention span)
Conceptual (matching colors, forms, etc.)

Description: This game is essentially a one-person form of lotto, and in fact can be played with lotto cards if the small cards which match each large card are kept in separate envelopes as suggested under *T-34, Lotto.* However, by making up her own game the teacher can provide a greater variety in range of difficulty and interest. Games could vary in size from a three-section card to which three identical small cards are to be matched, all the way up to a "super-card" of twenty pictures or even more. Objects to be matched can be all of one type of subject, or a variety of subjects. They can be easy because they are very different from each other as are most geometric shapes (but not all), or very difficult, consisting of a range of shades of the same color or the same object in a variety of different positions (for example a stick figure).

Materials: Heavy cardboard and two copies each of pictures, forms etc. either drawn by the teacher or cut from magazines, paperback books, or junk mail.

Comments or Cautions: This is an excellent activity for providing experiences of graded difficulty.

T-20 Sorting Dried Foods

Uses:
Small motor
Perceptual-motor
Social-emotional (attention span)
Conceptual (foods and three-dimensional form)

Description: In cottage cheese or similar containers have a mixture of small dried foods. Children can sort these foods according to type of food, size, color, etc. If the dried foods are small, egg carton sections can be used for sorting; or small plastic containers, cups, or glasses could be used as sorting containers. Try to gauge the attention span of the children most likely to use the activity and limit the number of items put into the containers so that it would be possible to completely sort all the items in a reasonable time if the child wants to do so. The more mature the children, the larger the variety and number of items that can be included.

Materials: Containers for storage and sorting and any of the following dried foods: split peas, lima beans, dried corn (different colors), colored popcorn, lentils, pinto beans, kidney beans, rice, navy beans, black-eyed peas, and small macaronis.

Comments or Cautions: To keep the materials in one area, give each child a tray or box lid with turned up edges on which to keep the foods and the sorting containers. The small size of rice, lentils, etc. makes this an excellent activity for children who need small motor practice.

Watch out for the occasional child who will try to eat the foods or put them into his nose or ears.

T-21 Sorting Foreign Coins

Uses: Perceptual-motor
Conceptual (money, numbers and counting, relative size, and cultural similarities and differences)

Description: Keep a variety of foreign coins in a container with a lid. If possible have several identical coins. Children interested in money may just want to look at them or sort all those which are alike by putting identical coins in rows or stacks, or they may order them by size from largest to smallest. Some may show an interest in where the coins come from. The most mature children might be interested in the relative value in American coins.

Materials: Foreign coins and a box with a lid.

Comments or Cautions: Teachers should try to know country of origin and relative value in case children are interested, as well as having a globe available to show where the coins come from.

T-22 Sorting Household Objects

Uses: Perceptual-motor
Conceptual (familiar household objects and use of the negative "not")

Description: Cut from catalogues or magazines pictures of objects found in the home. Also cut as many pictures of objects or things that *do not* belong in the household. Children sort into two piles those things found in the home and those not found there. Other sorting games can be played such as sorting into different rooms, by function, by material, by color, etc; or the children can just look at the pictures.

Materials: Sorting boxes (if desired) and pictures of familiar household objects and pictures of objects *not* found in the household cut from magazines, catalogues, or "pictionaries."

Comments or Cautions: Although the sorting of items not found at home may seem artificial to an adult, many children find this intriguing and amusing, if pictures are chosen with an eye to the humorous, such as a polar bear, a huge boulder, a pile of sand. At the same time the children get practice in the use of the negative. "A polar bear does *not* belong in the house."

T-23 Sorting Day and Night Pictures

Uses:
Perceptual-motor
Conceptual (time, occupations, and astronomy)

Description: From an inexpensive dimestore "pictionary" cut pictures of things that happen in the daytime and things that happen at night. These pictures should include what the child sees in the day and at night as well as things that he will do. Pictures of animals that are awake during the day or night as well as people who work during the day or night could be included.

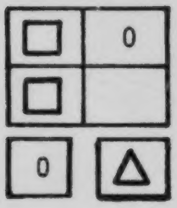
Materials: Two shoe boxes for sorting, one with a bright sun and the other with moon and stars; and pictures from a "pictionary" pasted to tagboard. The pictures might include stars, eyes shut, moon, fireflies, sleeping child, dinnertime, owls, sun, breakfast, eyes open, playing, going to school, people with night jobs, and people with daytime jobs.

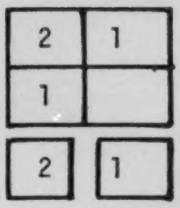
T-24 Completing a Square

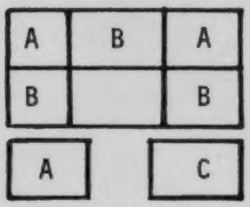
Uses:
Small motor
Perceptual-motor
Conceptual (pattern)

Description: Draw a simple pattern using forms, letters, or numbers with one space unfilled. Supply a choice for the child to let him fill in the space. This may be done with cards in which case the teacher makes the pattern on the table and then shows the child two possible cards and asks him which one fits. The pattern may be drawn on a piece of paper and the possible shapes drawn below with the child copying the correct one, or the same thing may be done at the blackboard. As children understand the idea, the game may be made more difficult by extending the pattern beyond four squares, by letting the child choose from a larger number of cards, or by letting him figure out for himself what the missing figure is.

Some samples are shown below.







The same kinds of patterns could be done with felt or cardboard squares or with blocks of different colors.

Materials: 2" x 2" cards or felt pieces with numbers, letters, or forms on them; incomplete patterns drawn on paper; a blackboard; colored blocks.

Comments or Cautions: This is quite difficult for many children and should never be introduced until they have had experience with copying games. (See *T-26, The Copying Game*.) It also requires a good deal of individual attention from the teacher at the beginning; but for those children who enjoy it, sheets of patterns can be made up ahead of time.

T-25 Letters and Numbers

Uses:
Small motor
Perceptual-motor
Language (letters)
Conceptual (numbers)

Description: Letters and numbers of various kinds can be used by children in different ways. Some may want to sort them or use for matching games and are not at all interested in learning their names. Other children may use them to spell words with the help of the teacher. To maintain positive attitudes it is important not to push learning of names when children are not ready.

Materials: Commercial magnetic letters and numbers with metal board, commercial or homemade sandpaper letters and numbers, homemade letters and numbers from textured wallpaper, and alphabet macaroni.

Comments or Cautions: If many children are interested in letter play, it is worthwhile to have several sets of magnetic letters.

TABLE GAMES

T-26 The Copying Game

Uses:

- Large motor
- Small motor
- Perceptual-motor
- Language
- Social-emotional (interaction with other children and taking turns)

Description: "The Copying Game" is actually a name for any play in which children copy the teacher or each other. It was "invented" by one child using some 8 1/2" x 11" scrap paper which had been divided into squares. One child was to draw something in one square with crayon or magic marker and the other child was to copy it. Then the roles were reversed and the second child made the model for the first child. If there is a child who needs practice in the perceptual-motor area, the teacher can play this game with him keeping the model very simple at first and then increasing the difficulty. (To maintain motivation the teacher must take turns serving as copier.) Some of the older children made very elaborate models and played the game for long periods of time.

Variations of the copying game are copying body movements, hand gestures, movements by puppets; copying patterns made with one-inch colored blocks, with pieces of flannel on a flannelboard, or with mosaic tiles; and repeating phrases or sentences.

Materials: Paper divided into squares, puppets, flannelboard pieces, or mosaic tiles or blocks.

Comments or Cautions: This game is effective only if the children enjoy it. Usually they do, but a teacher who wants to use it with children with perceptual-motor problems should move cautiously to find a variation especially interesting to the child. (Note, however, that it is also excellent for increasing child-child interaction.)

T-27 Ordering Cans by Weight

Uses:
Small motor
Perceptual-motor (kinesthetic)
Conceptual (weight and ordering)

Description: At first use cans of the same size with lids and fill or partially fill with materials of different weights, e.g., feathers, sand, sawdust, etc. Begin with three cans and see if children can find the one that is heavy, light, and in between. Encourage looking in the containers to discover heavy and light materials. Add more cans to make finer distinctions. Filled cans of different sizes would be fun to use next; for example, compare a small can of pineapple with a large can of chinese noodles.

With older children bring in an infant or grocery scale to let them check their ordering for themselves.

Materials: Awake, coffee, cat food, or other cans which come with plastic lids and filled cans of various sizes. Be sure to find ones that will help the child see that bigger does not always mean heavier and vice versa. For opened cans without plastic lids, place foil over the open end and fix with a rubber band.

Comments or Cautions: When children are opening cans, have them do so over a tray or paper. Try to avoid mixing of contents.

T-28 Which One Comes Next?

Uses: Small motor
Conceptual (ordering by size)

Description: In one large box, provide several smaller boxes, each including similar items which may be put in order by size. Examples are a set of nesting tin cans (brightly painted if desired), small dolls of varying sizes, jar lids, bottles, spoons (from demitasse to large kitchen spoon), and silhouettes of familiar objects such as cars or animals cut from heavy cardboard in different sizes. (See *S-18, Photosensitive Paper* for one way of making such silhouettes.)

Materials: See above.

Comments or Cautions: If children want to play with items in other ways, do not insist that they order them, but point out that "seeing which one comes next" is one way to play with them. For younger children or those who have trouble with the concept of ordering, use only three or four items in a box and keep them very similar except for size. As children progress, they can arrange longer series and cope with the problem of objects which vary in many ways other than size.

T-29 Dominoes

Uses: Small motor
Perceptual-motor
Conceptual (forms, colors, and numbers)

Description: Two children can play dominoes by taking turns to match the ends of dominoes. Besides giving practice in matching, this game can be used for many different concepts. Commercial dominoes are available with pictures or spots. Colors, pictures, forms, dots, or numerals can be put on homemade dominoes.

Individual children also enjoy playing with the dominoes by themselves, simply matching end to end.

Materials: Commercial dominoes with either dots or pictures and homemade cardboard dominoes with colored paper or painted forms, dots, etc. Larger dominoes may also be made of wood or masonite.

Comments or Cautions: Avoid making children feel that they must play a domino game, though many older fours will enjoy knowing the rules for simple games. Some fives may be ready to learn simple number combinations, adding the dots on the ends of the dominoes.

Dominoes are often a very popular table activity which children can use quite independently.

T-30 Board Games

Uses:
Small motor
Social-emotional (interaction with other children and taking turns)
Language
Conceptual (counting and color matching)

Description: Many fours and fives enjoy very simple commercial board games which involve taking turns moving along a path to a goal. In the simplest version, of which "Winnie the Pooh" is an example, the child draws a color chip from a bag and simply moves his marker up to the next square of that color. Others, such as "Candy Land" require the child to be able to count.

Materials: Commercial board games or homemade ones that emphasize current concepts.

Comments or Cautions: The teacher should introduce such games with care, when she feels that some of the most mature children have the attention span, frustration tolerance, and the necessary concepts to handle them. It is particularly important to play down the competitive aspects, letting each child continue playing until he has reached the goal rather than stopping when the first child reaches it. Be careful to avoid board games which require a child who lands on the wrong square to return to the start or to be set back a considerable distance.

T-31 Box Die and Buttons

Uses:
Small motor
Perceptual-motor
Social-emotional (taking turns)
Conceptual (counting)

Description: Any number of children can play this game. Have each child, in turn, roll the "box die" (a cubical box with spots painted or pasted on it) in front of him. Then the child can cover each dot on the top of the die with buttons, counting as he does so. He then removes his markers and passes the die on.

Materials: Box dice and buttons, metal washers, tiddlywink discs, or similar devices for marking dots on the dice. (See *TTT-56, Large Dice.*)

Comments or Cautions: Make more than one die in case the group becomes too big. You can then start another group going right away. This is a very simple "game"; there are no elements of competition.

T-32 Dice and Washers

Uses:
Small motor
Social-emotional (interaction and taking turns)
Conceptual (counting, less than, and more than)

Description: Any number of children can play this game. It can be done at the table or sitting on the floor in a circle using the center as a "boneyard" for the washers. Each child can roll the dice, count the dots on top of the dice, and count out the same number of washers for his own boneyard. When the washers are gone, each child counts up the number of washers he has. Make towers with the washers if counting beyond ten is difficult.

Materials: Plumbers' metal washers and large dice. (for making large dice, see *TTT-56, Large Dice.*)

Comments or Cautions: This is a counting game; winning is not the emphasis. Dice should be large enough for easy counting. For very young children use only one die at first.

T-33 Playing Cards

Uses:
Small motor
Perceptual-motor
Social-emotional (interaction and taking turns)
Language
Conceptual (numbers, colors, shapes, animals, and many other concepts)

Description: Animal cards or commercial cards of any interesting variety can be used for play. Actual playing cards are also interesting to four- and five-year-olds and are excellent for number concepts. Index cards 3" x 5" with pictures drawn on them by the children can also be used to invent their own games. Cognitive concepts such as numbers and colors or shapes can be taught by teacher-made cards.

Materials: Playing cards or 3" x 5" index cards and crayons, magic markers, or pictures cut from magazines.

Comments or Cautions: Three simple types of card games which can be played by many fives and some fours are "Old Maid," "Go Fish," and "Concentration." For the latter use picture cards and limit the number of cards used. These games can be played with a commercial deck or with any set of cards, homemade or bought. Most four-year-olds are not ready to play real games with cards, but they will enjoy looking at and matching pictures and gain small motor control from "dealing."

T-34 Lotto

Uses:

Small motor
Perceptual-motor
Social-emotional (interaction with children and adults and taking turns)
Language
Conceptual (many different concepts)

Description: Lotto games consist of matching individual picture cards to identical or related pictures within a group of four to six pictures on a large game board. The teacher may purchase commercial lotto games which are available in varying degress of difficulty and content, or may construct her own lotto games using pictures, colors, numbers, or even words that relate to a category such as animals or fruit. Books of stickers available at stationery stores can be used. One teacher made a lotto game using labels from food containers, putting individual labels on pieces of cardboard and the group of pictures on a filing folder.

Some teachers have found that commercial sets are more useful if the pictures which go with each board are kept in an envelope fastened with tape or glue to the back of the board. This way it is easier to get out one or two sets at a time, if needed, and easier for the adult to group the picture cards in such a way that children will get turns often in order not to lose interest.

Lotto may be used in several ways. Two or three boards may be laid out on a table with the corresponding pictures beside them ready to be matched by a child when he chooses to do so, or they may be used by a teacher and individual child or small group of children.

The game will probably be adult-directed at first, but the adult should encourage children to play with each other and should be responsive to the participation. Children often have better ideas than adults. Below we describe four suggested levels for playing lotto games.

Level one. The usual way for playing lotto is for each child to select or receive a board while the teacher keeps all the individual cards. The teacher can begin by saying, "In my hand I have pictures which are like the pictures on your boards. If you have the picture that I hold up, point to it on your board; and I will give you the picture to put on top of the picture on your board." If the child has difficulty, hold the little card next to each of the pictures on the board checking to see if they match. When the child points correctly give him the picture and watch to see that he places it in the appropriate position. The different children's cards should be completed at about the same time with no need to mention "winning." Ask the children to return small picture cards to envelope (call for specific items to see if they recognize them), and establish the habit of returning the game tc the box or the shelf.

Level two. The teacher says the name of the picture but does not let the children see it.

Level three. The teacher describes the item in the picture. For example, "It is red. It grows on a tree. It is something to eat."

Level four. The child describes the card he needs for his board when his turn comes, and the teacher then gives him the card.

Materials: Commercial or homemade lotto, using any sets of identical pictures. (For making lotto games, see *TTT-37, Lotto Construction.*)

Comments or Cautions: Lotto is an excellent way for a teacher, especially an adult new to the children, to initiate relationships without being too direct or personal and to provide a pleasant group experience. It may be an effective change of pace from more active play, having a quieting or steadying effect.

T-35 Bingo

Uses:
- Small motor
- Perceptual-motor
- Social-emotional (interaction with children and listening to directions)
- Language (letters)
- Conceptual (numbers)

Description: Make a bingo card for each child who will be playing the game. These are like adult bingo cards with a row of letters across the top and a column of numbers at the side with the remainder of the card marked off in squares. At the beginning the cards are very simple, with perhaps only three letters across the top and three numbers at the side, with a total of nine spaces. The letters and numbers will be those which the children have been using in other contexts. Call out the letter and the number and those children who have the combination put a marker on that square. As the children progress, more difficult cards can be made; and more children can play the game.

Materials: Homemade bingo cards (see illustration below of sample set for beginning play with three children) and markers such as tiddlywinks, pieces of colored cardboard, or corn.

	A	B	C
1			
2			
3			

	B	C	D
2			
3			
4			

	C	D	E
3			
4			
5			

Comments or Cautions: This game would ordinarily only be played with kindergarteners who have already had some experience with number and letter recognition as well as with lotto games. At the beginning it should be played only with two or three children because some children will need help in recognizing letters and numbers as they go along. Later more children can be added, but there always needs to be some monitoring of progress if the game is to be a real learning experience.

At this age *the element of "winning" should not be emphasized* and the goal should be for each child to have fun filling his card. This has proved to be a very popular game with children who are really ready for it, but care needs to be taken to avoid frustration. Explain that, unlike lotto, more than one child may have the same combination.

Chapter 15
Language Activities

Introduction

In one sense every activity in this book could be listed in this chapter because there is no situation which cannot be used for the practice or teaching of language, no matter what its primary purpose is. For example, the child who is running from one end of the yard to another may be exposed to new vocabulary if the teacher comments as he pauses for breath, "My you're a rapid racer!" The child who is carefully building with Lego can be encouraged to talk to the teacher about what he is doing, and thus to become more fluent in speech. And, of course, any task for concept learning has language built into it, as children gain ideas and the words for describing those ideas at the same time. The problem of the teacher is not to find situations for language learning, but rather to decide when to use a given activity for language growth and when it is better for a particular child to focus on the motor or social aspects instead. General ways of helping with language have been discussed under *Language, General Suggestions for Developing Skills.*

The present chapter describes the following kinds of language activities:

1. Use of books and storytelling. Although books and stories are used as much for conceptual and social-emotional purposes as for language, this chapter seemed a logical place to include the discussion. An annotated list of children's books is included in the Appendix.

2. Specific activities which have as their main purpose providing situations which encourage children both to talk and to listen to others talk.
3. A series of games for increasing language production. These games also teach in other areas such as memory, attention span, or specific concepts; and some are directed toward pre-reading skills such as visual or auditory matching. They are intended to be played originally with the teacher, but later children may play them by themselves.
4. Specialized activities for auditory discrimination that involve listening to various sounds.

L-1 Books in the Nursery School and Kindergarten

Uses:
Small motor
Perceptual-motor
Social-emotional (interaction with adults)
Language
Conceptual

Description: Story time has become almost a hallowed ritual in many nursery schools--partially perhaps because children's books are very attractive to teachers, and partially because teachers are aware of the many important functions that books and stories can play in teaching. However, unless teachers are clear as to why they are reading books to this particular group of children--and more than that, why they are reading *this particular book now*--books might not be used as effectively as they could be, or at worst children might have negative rather than positive experiences with books as the result of poor choice and presentation.

Reading to children and having books available for them to look at can serve several different purposes, and these purposes will affect the choice and use of books. First, there are certain things that children need to learn about books: how to handle them--to hold them right-side-up and to look from front to back; that they are used for looking at, not for standing on, throwing, or chewing; and that they contain stories which are fun or information about things. Second, children can learn facts, attitudes, and motivations from books. Third, books contribute to one of our major goals of preschool education--that the child should be enjoying his life in the immediate here and now. This means reading "just for fun." Fourth, teachers want to help each child to see books and reading in a positive way, in preparation for reading himself.

For these purposes books may be used in at least three different ways. First books can be available for children to look at themselves during the daily program. Books must be in a place where children can view them easily while making a choice and to which children can easily return them. This means a few books out on a table or on display shelves rather than many books on bookshelves so that only the backs show. The children also need comfortable chairs, a rug, or a window seat in an area especially designed for quiet. Books will be chosen for this use because they have clear, attractive pictures and because the topics are known to be interesting to the particular group. Quality of the text will be of no importance; some of the books may be too young or too old to read to this particular group, yet ideal for looking at. However, children also like to look at their favorites for reading aloud and review the story to themselves as they look at the pictures.

A second approach to the use of books is the reading by a teacher to one or more children, usually during a period of free play. Here the choice of books is determined very much by the individual child or children. Books about emotional needs such as needing friends, sharing mother with a new baby, or being afraid can often be used in this situation. Because of the closeness to the teacher and the fact that she can tailor her delivery to the child's response, it is often possible to use books which might not be suitable for a larger group because of little action, too small pictures, or too high a ratio of text to picture. Poetry can often be read in these intimate situations better than with a total group. This individualized use of books can often be handled by a warm and sensitive volunteer who sits with the child on her lap or close next to her as she reads.

The third method of using books, reading aloud to a large group, requires quite a different approach. The reader here must be something of an actor, with involving and holding her audience a major task. She must hold the book in such a way that all the children can see the pictures as she reads (already being familiar with the story herself), shorten the text if attention seems to be wandering, or add a comment if the children seem to be puzzled about something. She must use the tone and pitch of her voice to emphasize a point, to build suspense, or to bring back the attention of a child in the back row. And she must be willing occasionally to admit that the particular book she has chosen just is not "going over" and to bring it to a swift close rather than lose her audience.

The selection of books for a large group will depend on the age and maturity of the children--the less mature they are, the larger and more colorful the pictures need to be, the simpler and briefer the text, and the more interesting the story. In the list of books given in the Appendix, those which are described as good for reading to groups aged three to four years are the best to use until one knows what to expect of a particular group. There are certain books in which nothing much happens, which are delightful when read to one child on a lap, or which are excellent picture books for the book corner, but which simply do not hold the attention even of five-year-olds in a group situation.

In addition to considering the holding power of books, the teacher will want to choose at least some of her books because they add something to the concepts being emphasized currently in the class or because they review concepts previously taught. The remainder will probably be chosen because the children especially enjoy or request them. Always she will want to keep in mind that the major reason for using books is to create a positive and happy attitude toward books and reading, and that when story time ceases to be a happy time for the children, it ceases to have educational value.

Many schools will have a limited book budget. Therefore we suggest that the nursery school teacher lay in a supply of good paper or cardboard backed books to provide a base, try to arrange for a teacher's loan card from the public library so that she can provide a rotating variety of books, and plan to buy a few favorite books each year. If plastic covers are put on books immediately, children are encouraged to treat them carefully, and any damage is repaired at once, a book can last for years. The kindergarten teacher may be more or less fortunate depending on the size of her school library, but she will probably also want to find some way of supplementing those available in the library with books from other sources.

L-2 Storytelling

Uses:	Social-emotional (interaction with teacher) Language Conceptual

Description: Storytelling is a particularly effective technique for illustrating a concept or getting across a point when there is no book available. It would be wonderful if a sudden interest on the part of the children in some topic could be met by going to the supply cupboard for a book on the subject, but this is not often possible. Many teachers would be quite capable of coming up with a story on the spur of the moment or at least by the next day, if they were only more confident of their own ability.

The same points apply to storytelling as to reading books: be thoroughly familiar with the story, use voice for dramatic emphasis, be sensitive to the mood of the group, and be ready to shorten or terminate as necessary. In general the teacher should remember to keep the stories short and full of action, colorful language, and repetition. Use props such as drawings and flannelboards and *keep up the pace*. The four stories below are examples of the kind of thing we are talking about. They are included because they are so obviously written by amateurs and yet appeal to children and teach at the same time. Each uses some kind of prop--a simple drawing, a flannelboard, a map, or a series of paper cutouts. However, once the children and the teacher herself gain some faith in the teacher's ability to tell interesting stories, not all storytelling sessions will require props. In addition to making up stories, teachers of course can also tell familiar stories or those written by someone else.

The Little Girl Who Liked Bracelets
(Concept: body parts)

Once a mother asked her little girl named Judy what she wanted for her birthday. "Bracelets," said Judy. "What else?" asked her mother. "More bracelets," said Judy; "More and more and more." So when it was her birthday, she opened all her presents; and they were all bracelets. More and more and more and more and more. (At this point the teacher puts up a large sheet of paper on which is an outline of a little girl which she has previously drawn with magic marker. It should have the parts mentioned below clearly defined. As she mentions each bracelet, she draws a line across with a wide magic marker. If a child comments that it could not happen in this way, she can agree that it is just a funny story, not a real one.)

First Judy put the bracelets on her right arm. She started at her *wrist* and went all the way up to her *elbow,* then she put bracelets all the way up to her *shoulder,* and then she started at her wrist and put them down to her *finger tips.* Then she started on her left arm and put them from her... (Repeat as above pointing to each part, but give the children a chance to name the appropriate body part.) "Is that enough?" said her mother. "No," said Judy; "I want them on my legs too." (As above with *ankles* to *knees,* to *body,* and down to the *tips of her toes,* first on the right leg and then letting children fill in the words for the left leg.)

When her arms and her legs were covered, her mother said, "Surely that's enough bracelets, Judy." *"NO,"* said Judy, "I want more. I want big ones to go all the way around me." So they put on big bracelets. All the way up to her *waist* and all the way up to her shoulders. "Enough?" said her mother. "No," said Judy, "More, more, more." So they started at her *neck* and put bracelets up to her *chin,* up to her *mouth,* up to her *nose,* up to her *eyes,* and over her *forehead.* (The teacher should pause before each body part if the children want to fill it in.) "That's enough!" said Judy; but no one could hear her because there were bracelets over her mouth. So they put on one more; and Judy was so heavy with bracelets that she just fell over flat. (Teacher dramatically tips the sheet of paper over on its side. If the children want to know what happens next, let them decide.)

The Lonesome Little Boy
(Concepts: prepositions, color, patterns, or size)

(This story is told with a flannelboard; props needed are a little boy which may be available from flannelboard family sets, a bed, and a number of cutout animals. These may be all cut from the same outline and varied only in color, pattern, or size, depending on the concept. The story as told below emphasizes pattern and prepositions.)

Once there was a little boy who was all alone in his bed and who was very lonesome. (That could really happen; but the rest of the story could not. It is just pretend.) So the lonesome little boy called out, "I'm lonesome, someone come sleep with me." So first thing, his *spotted* dog jumped into bed and lay down *at the bottom of* the bed at the little boy's feet. "I'm coming, too," said the *checked* doggy; and he jumped up and lay *at the top of* the bed at the little boy's head. "Me, too," squeaked the *plaid* dog; and he got into bed *beside* the boy. "Don't leave me out," said the *printed* doggy; and he bounced in right *next to* the *plaid* dog. "Hey, what about me," yipped the *plain* dog; and he jumped in right *on top of* the little boy. "Golly," said the little boy; "Maybe it's not so bad to be a little bit lonesome." He wiggled *out from under* the *plain* dog, left the *plaid* dog and the *printed* dog *in the middle of* the bed, the *checked* dog *at the top of* the bed, and left the *spotted* dog *at the bottom of* the bed. And the little boy crawled *underneath* the bed where he could be comfortable all alone, and he went to sleep. (Review the concepts by having the children tell one at a time the order in which the dogs should get up in the morning, if they like.)

The Lost Scarf

(Concepts: prepositions. This is also a good story for memory.)

(This can be told as a story without illustrations; or the teacher can draw a map to go with it on the order of the simple maps in Milne's *Winnie the Pooh,* and can trace the paths with a crayon or magic marker.)

Peter went to visit his grandmother one day. His animal friends, the rabbit, the squirrel, the mouse, and the puppy, went along. They were in a hurry to get there because they were hungry and Grandmother always had cookies for them. So--they ran *down* the driveway, looked both ways and walked quickly *across* the road, skipped straight *along* the sidewalk, and ran straight *through* the woods. Sure enough when they got to Grandmother's house, she had hot cookies just out of the oven, plenty for everyone, and something else--a new red scarf for Peter with red fringe and tassels on the ends. It was beautiful.

They all sat and ate lots and lots of cookies, and then they started for home. But since they were not hungry and in a hurry any more they did not go straight home. Instead they went *in and out around* the trees in the wood, then crawled *through* a big hollow log. They detoured *past* an old barn, they climbed *up on* an old tree stump and jumped *off* of it, and they walked *on the edge* of the sidewalk. Just as they were about to look both ways and cross the road, Peter noticed that his red scarf was missing. "Oh no," he cried; "We went such a long way around, how will I ever find it?" "We'll help," said his friends; "We can remember." (Before each animal tells how they went, pause to let the children tell if they can.) "First, the sidewalk," said the rabbit; "We went along the edge." But no scarf was there. "Next, the tree stump," said the squirrel; "We climbed up on it and jumped off." But no scarf there. "Then we went past an old barn," said the mouse. But no scarf there. "And we crawled through the hollow log," said the puppy. But no scarf there. "And finally we went in and out through the trees in the wood," said Peter. But still no scarf. He was almost ready to cry as they came to the steps of his grandmother's house. But what do you think? His grandmother was standing there holding the scarf. "Peter, you left your new scarf on the back of your chair," she said. Peter was so happy he hugged his grandmother and all his friends. Then he wrapped the scarf tightly around his neck; and they all rushed home, straight and fast as they could go, with the fringe and tassels flying in the wind.

The Polka Dot Paint Story

by Ava Hessler

(Concept: patterns)

(This story needs to be illustrated when told to preschoolers though the original author used no illustrations when she told it to the senior author of this manual many years ago. It can be illustrated either by having a tablet of paper and very quickly sketching a schematic outline of a house and using a magic marker to make the appropriate pattern each time, or having prepared house shapes cut out of patterned paper or cloth to put on a flannelboard. Whichever way it is done, try it first before you tell it to the children. They usually find it hilarious if the teacher thinks of it as a "silly story" where the fun is more important than the concept.)

Once there was a painter who was a very good painter, but he had lost his glasses and could not see very well. A man came to ask him if he would paint his house white. The painter said he would, and he want to the paint store and asked for some white paint. But the paint store man got mixed up and gave him the wrong kind of paint. The painter put it on the house; but because he did not have his glasses, he could not see that it was ------*polka dot paint.* (The teacher draws in dots or pins up a dotted house being careful with her timing to get the greatest suspense.) Then the man who owned the house came along and he was very angry. "I didn't want *polka dot paint,"* he said; "I want white paint." The painter said he was sorry; and he went back to the paint store and told them they had given him the wrong paint; and they gave him some more. So this time the painter put it on the house. But it was not white, it was *striped paint.* (The teacher repeats this sequence as often as she thinks the children will enjoy it, using *flowered, plaid, checked,* etc.) Finally the painter went back to the paint store very angry; and he said, "Don't you have any white paint?" "I guess we don't," said the paint store man; "How about Sunshine Yellow? That's a nice cheerful color." So the painter went back and painted the house one more time and it was a beautiful, bright yellow. When the man who owned the house saw it, he started to be angry again, because it still was not white. But then he stopped and said, "My house isn't white yet, but I like it. I think I'll keep it Sunshine Yellow." And he and the painter went inside and had a cup of coffee because they were so tired from painting. (Ask the children if you could really have polka dot paint, and why it would not work. Let them experiment with trying to keep two colors of paint from mixing in the paint jar, if they want to.)

L-3 A Child's Own Book

Uses: Language
Social-emotional (self-concept, interaction with teacher, and creativity)

Description: Because it is felt that talking with a child about himself and his interests is one of the best ways of helping him to understand and accept himself, some teachers have done a lot with telling children stories about themselves or helping the child to tell his own stories.

One way to start is to make a book for each child with some of his drawings, the comments that he has made about them, and any short "stories" which he wants to dictate during quiet moments at free play time. If a child is hesitant about telling his own stories or if the teacher wants to reinforce positive feelings about himself, she may tell and write down a short story about him. This might include something about what he is wearing, something he had done at school that day with a friend, or something which is going to happen. The teacher might read either her own or the child's story to the group, if the child wanted her to do so. Such a book could be kept over a long time period, being added to whenever the child or teacher thought of something which should go in. It could also include photographs.

The total group might be involved in production of "pretend" stories by some story such as Joan Anglund's *The Brave Cowboy* or Marie Ets' *In the Forest,* in which obviously imaginary incidents occur. Those children who wanted to could then draw about and/or dictate pretend stories for their books. (See *Fact and Fantasy.*)

If children become used to telling their own stories, the teacher may find it possible to use them for helping with the expression of feelings. For example, if she knew that a child was very much afraid of lightning, she might read a storm story and suggest that the children draw pictures and tell stories about storms. Children may occasionally decide on their own to tell a story about their fears and concerns, thus helping themselves to work out their own problems or giving their teacher some cues as to how she can best help them.

Materials: A notebook for each child (8 1/2" x 11" or 9" x 12" spiral notebooks, or a file folder with punched holes and notebook rings); sharp pencils; time and patience.

Comments or Cautions: Like any technique, this works with some children and not with others. Proceed cautiously and be alert to signs that the child is feeling pushed or that the storytelling is intruding on his privacy.

L-4 Making a Book

Uses:
- Small motor
- Social-emotional (self-concept and creativity)
- Conceptual

Description: Making books in the classroom can be done by the teacher, by the children, or as a cooperative project. They can be no more elaborate than two pieces of paper stapled together with a picture drawn or pasted on each, or can be long, original, illustrated stories with each page covered with contact paper for protection. In any case they give the person (child or teacher) who produces them a real feeling of creating and often can help teach a variety of concepts.

One way to help children produce books is to provide colored construction paper and pages cut from magazines with pictures of some category such as animals, people, or cars and trucks, and let each child make his own picture book. Put his title and name on the cover. For the youngest children the pictures should already be cut out (a possible job for a volunteer). Expecting the children to look through magazines to find their own pictures is appropriate only for the oldest children, and may require the project to have two parts--one day to find pictures and one to paste.

Another way to make books is to take pictures of class activities, individual children, and teachers. (Be sure each child is included at least once.) Let children tell you how to label each one and make into a sturdy book which can be left in the room for children to look at whenever they like, or to show to visiting parents.

Children can make books by drawing on white construction paper, putting the drawings between colored paper covers, and either stapling or sewing together with a large needle and yarn.

Materials: See materials above for each type of book; or collect discarded class notebooks, account books, etc. and let children paste pictures on top of the writing. (As well as saving money on paper, this often leads to great interest in handwriting and what people write in notebooks.)

Comments or Cautions: As with all projects the child's sense of satisfaction is far more important than the product.

L-5 Acting Out Stories

Uses:

- Large motor
- Language
- Social-emotional (interaction with other children, self-concept, and creativity)
- Conceptual (use of memory and various concepts)

Description: Most teachers approach creative dramatics with misgivings, and with some reason, since children and groups vary tremendously in their willingness to try acting. For this reason it is best to start very spontaneously and informally, either by introducing a dramatic element as children are moving to music or by seizing upon some moment in ongoing play to point out that children look like something other than themselves. The teacher could say, "Hey, that music sounds like popcorn popping. Can anyone dance like a popcorn kernel?" To children jumping across the playground a teacher might say, "It looks like our yard is full of rabbits this morning." Or to children jumping off a platform one day in the fall, "You come down off there like leaves coming off a tree."

If children accept these informal attempts, teachers can go on to simple one-shot dramatics, (especially good for brief transitions), often related to some project in the classroom or a story with which the children are familiar. "I wonder if you could be a seed--growing in the dark, coming up through the ground, and turning into a plant."

Finally, once children can accept pretending to be something further from their own lives than mommies or firemen, the teacher might suggest that children act out a whole story. At first it is easiest for the teacher to read the story while selected children pantomime it. Then the teacher can suggest that the children say the words also. Here it is necessary to have a well known story with simple and repetitious text such as *Caps for Sale*, *Three Billy Goats Gruff*, or *Goldilocks*. At the same time the teacher can continue to use a variety of brief pantomime kinds of dramatics as the opportunities arise.

Materials: None, or props as desired.

Comments or Cautions: Remember that our primary interests are language production and creativity. If children desert the story line entirely and start improvising, or begin as butterflies leaving a cocoon and turn into bats--so much the better. We want to avoid the traditional script-type plays where children are drilled in order to present a finished "production" to parents.

L-6 Use of Puppets

Uses: Social-emotional (initiation of contacts with adults and children, expression of negative feelings, self-concept, and dramatic play)
Language
Conceptual

Description: If puppets are always available, the teacher and the children will use them in many different ways. The teacher may use them to illustrate a story which she is telling to hold the attention of the group. In these cases puppets may be no more than paper cutouts on popsicle sticks.

Children may also use them in dramatic play with each other, to illustrate stories which they have heard, or simply in ongoing role play. The teacher may need to help with the story line if the children do not seem to know what to do next.

Some teachers have used puppets very effectively to work through social-emotional problems with groups or individual children, since it sometimes seems easier for children to discuss the difficulties which the puppet is having and to try to find solutions for them.

Concept games may also be played by making simple puppets illustrating the desired concept, for example stick puppets consisting of geometric forms with faces or finger puppets dressed in different types of materials, and giving each child one to hold. The teacher may then say, "Mr. Red, stand up and bow. Little girl with the dotted dress, jump up and down three times." etc.

While elaborate puppet stages with curtains are available, they sometimes detract from rather than adding to play. Children are usually quite happy to sit behind a table or piano bench which serves as the stage, or to stand behind a screen.

Materials: Commercial or homemade puppets. (For directions in making puppets, see *TTT-18* through *TTT-24*.)

Comments or Cautions: Puppet play may be encouraged by letting children make their own puppets. Note that the type of puppet play will vary with age. Very young children do better with simple stick puppets, since manipulating hand puppets is often difficult for them. *The teacher must watch out for the release of aggressive feelings through puppets.*

L-7 Finger Plays

Uses:
- Small motor
- Language
- Social-emotional (initiation of activity)
- Conceptual

Description: Almost everyone knows a few finger plays (see if the children can teach you some) in which a rhyme or a song is accompanied by appropriate finger and hand (or sometimes whole body) movements. We have not included any actual examples because of the problems of tracking down which of the finger plays are copyrighted. Ask friends for examples and use *Let's Do Fingerplays*, by Marion Grayson (Luce, 1967) or some other good finger play book.

Materials: Teacher, children, and finger plays.

Comments or Cautions: Finger plays are good for starting storytime, for difficult moments or transitions, to involve a shy or unhappy child, or to increase language production. Start with very simple spoken ones, and do not try to teach more than one at a time.

L-8 Flannelboard

Uses:
Small motor
Perceptual-motor
Social-emotional (dramatic play and creativity)
Conceptual

Description: In addition to its use for illustrating stories told by the teacher, a flannelboard may be used for eliciting language from the children. The teacher may be telling a story and stop at an obvious point to let a child tell and act out what happens next. She can begin by letting the child add just a phrase (e.g., "I'll huff, and I'll puff, and I'll blow your house down.") and progress to longer and longer parts of the story told by the children. After flannelboards have been used in this way, children will often use them to make up their own narratives if individual flannelboards and characters are left available to them.

Individual flannelboards can also be used for perceptual-motor skills, copying patterns, or making designs from pieces of felt or colored paper. A long flannelboard can be mounted on the wall and used by a number of children at one time.

Materials: Flannelboards and cutouts. (See *TTT-12, Flannelboards.*)

Any firm piece of paper may be used on the flannelboard if rubber cement is smeared on the back and allowed to dry.

Comments or Cautions: Often the child's own narratives may not be a story in the usual sense, but rather a rambling and disconnected series of events. However, plot is not as important as the child's own production of ideas and language.

L-9 Picture Discussion

Uses:
Perceptual-motor
Language
Conceptual

Description: There are now several companies which produce pictures for preschool and kindergarten use (see Appendix); and of course there are always magazines such as *Holiday, National Geographic, Ebony, The New York Times Sunday Supplement,* etc. which provide useful pictures. Thus, the problem is not so much where to find appropriate pictures as how to use them.

It has been our experience that just holding up a picture before a group and talking or asking questions about it does not hold the interest of children who most need help with language production or concepts. Their attention wanders very quickly, and they often fail to talk about the picture at all.

One technique is to use such pictures on child-height bulletin boards, and to have the adults in the room alert to the possibilities of talking to a child about the picture when his attention is caught by it in passing.

Sometimes pictures are looked at and talked about more if they are placed in appropriate areas of the room instead of on the bulletin board. For example, put a picture of earth-moving equipment in the block corner, a picture of a mother feeding her baby in the doll corner, or a picture of a storm at sea at the water play table. (Though maybe the storm is not such a good idea. A storm in a water play table can make quite a mess.)

Another approach is to present pictures in ways which focus a child's attention. Two examples are the roller technique or the picture window. (See *Geography, Concept Game*, and see *Astronomy and Weather, Concept Game*.)

Another variation is to make a TV set from a cardboard box (spool knobs) with a black cardboard to slide in front of the picture, so that each child can "turn on" the picture.

Techniques using more elaborate presentations would involve a View Master for individual use, the projection of colored slides for a group, a tabletop, lighted slide viewer for a small group.

Whatever method of presentation is used, the object is to involve children in a free, interested discussion. However, if children are slow to respond, either ask children specific questions about the pictures, or for more verbal children, ask them to say what is happening or to tell a story. The teacher might write down such stories and later read them back to the child or the group.

The teacher may also add interest and a memory element by telling one or two children to look very carefully at a picture. Then turning it over, ask, "What kind of an animal was in that picture?" "How many boys?" or "What color was the little girl's dress?" The questions depend on the picture and the maturity of the children. The same approach could be used with a group by showing a slide, switching off the projector and asking a question, and then turning it back on to see if they were right.

Materials: Pictures from school supply houses or cut from magazines; and homemade presentation apparatus or View Master, slides, slide viewer, or projector.

Comments or Cautions: *If using a slide projector, either get one with a remote control or have someone else run the projector.* One cannot hold the children's attention if the picture is in front of them and the person talking about it is behind them.

If a teacher likes using pictures in the classroom in various ways, she should start a picture file.

We have found that it is almost impossible to find a particular picture if one searches magazines for it when it is needed; but pictures cut and filed whenever an interesting one appears will soon add up to a sizable file. Pictures should be filed by topic for easy access. One teacher suggested "junk mail" as a fertile source.

L-10 Tape Recorder

Uses: Social-emotional (self-concept)
Language

Description: Small tape recorders are now so inexpensive and easy to operate that they should be standard equipment in the preschool classroom. There seem to be some indications that a tape recorder may be the most effective tool a teacher can use for obtaining language production from children who do not ordinarily talk very much. Children can be just encouraged to talk into the recorder and listen to their voices replayed; or it can be used for recording poems, songs, and impromptu plays put on by the children. It is also useful for auditory discrimination. For example, the teacher may take it along on a trip and record noises, then play them back and ask if the children can identify them. The same kind of thing could be done for a cooking project; or each child in the group can say something, and then the group can guess whose voice they are listening to. Finally, tapes can be used as narration for homemade movies, either on film or those made by children and teachers on brown paper to be rolled on cardboard rollers. (See *Geography, Concept Game* and see *Misc -4, Movies in the Classroom.*)

Materials: One or more simple tape recorders.

Comments or Cautions: Even the simplest and sturdiest tape recorder is fairly easily broken, and should not be used by the children without very close adult supervision.

L-11 Telephone Talking

Uses: Social-emotional (interaction with children)
Language (letters)
Conceptual (numbers and auditory discrimination)

Description: Telephones can be placed in the nursery school and used in a variety of ways to help children interact with one another. Possible uses include children calling each other on the telephone to ask the other to come and play. While playing adult roles, children can call each other to chat, for groceries, the doctor, the fireman, etc. Disputes might be settled at times over the telephone, the children talking to one another or to the teacher. For a child who is insecure, pretending to call home or to call his daddy or grandmother may help. In a real crisis he may need to make a real call for reassurance.

Materials: Real telephones can often be obtained from the local telephone exchange for extended periods of time. If these are not available, inexpensive yet real-looking telephones can be purchased at local dime-stores. Telephones can also be made by stretching tight a string between two paper cups or two tin cans. (See *TTT-26, Telephones.*)

Comments or Cautions: If real telephones are used, some time should be taken to help children learn the care and proper use of real telephones. They are amazingly sturdy, but should not be dropped. (Stuff empty receivers with cotton.)

This is one of the most effective tools for increasing language production. Teachers can suggest many reasons for use of the phone which fit in with the play of the moment. Often no direction at all is needed by the children, and they should be permitted to use telephones freely.

Children who are becoming interested in the recognition of numbers and letters might be helped to dial "telephone numbers" starting out with simple combinations of one letter and one number and continuing as far as the child can go.

L-12 Telephone Book

Uses: Language
Conceptual (addresses, telephone numbers, and alphabetical order)

Description: If children are not familiar with telephone books, take a few children at a time to use the telephone on real calls, such as to the library or to call a child's mother. Demonstrate the use of the telephone book and explain why it is needed. When all children understand its use, help the children to construct a class telephone book, listing each child and teacher in alphabetical order, last name first. This book should be on large size paper with names printed very large so that children can see them easily. It might be left in the play area by the toy telephones for use by the children, or hang it by the real telephone for regular use.

Materials: Heavy paper or cardboard, and a real telephone book.

Comments or Cautions: Ordinarily this would be a project for kindergarten children who already recognize their names and at least some of their numerals. However, it might be done with younger children if they show an interest.

L-18 Apron with Pockets

Uses: Language
Social-emotional (interaction with teacher)
Conceptual

Description: The teacher wears an apron with several large pockets (such as a carpenter's apron). She puts in items which relate to a current concept or just anything which she thinks a child might find interesting. It might be a nut, a ring of keys, a toy mouse, or a piece of sandpaper.

Ask the child if he can guess what is in the pocket. Let him feel through the apron, discuss, put his hand inside the pocket, and then look. This is especially good for helping a child who is having trouble saying goodbye or getting started in the morning, or for distraction when trouble is brewing.

Materials: Apron (could have many differently colored pockets).

Comments or Cautions: Objects should be firm enough to stand handling. The teacher may prefer a half apron to avoid pulling down on shoulders. Children might borrow the apron to play the game. Use with it the poem "What Shall I Put in My Pocket" from *Something Special* by Beatrice DeRegnairs.

L-14 Mirrors

Uses: Social-emotional (interaction with teacher and self-concept)
Language
Conceptual (body parts and emotions)

Description: Keep inexpensive hand mirrors and some wall mirrors available for children's use. Encourage them to discover themselves and what makes them different from others as well as alike. Games could be played to find different body parts, e.g., "Touch your toes in the mirror, your hair, the tip of your nose." With hand mirrors the teacher or aide has an opportunity to work with a single child. Encourage children to discover and feel proud of their own images.

Materials: Hand and wall mirrors. (Wall mirrors should be unbreakable and tall enough for a child to see his whole image.)

Comments or Cautions: Sometimes a very shy child can carry on a conversation with a teacher in the mirror, though not face-to-face, or will talk to himself, to a puppet, or to a doll held facing the mirror.

L-15 Movable Man

Uses: Language
Conceptual (body parts, raise, lower, up, and down)

Description: Make a cardboard man put together with paper fasteners so that head, neck, shoulders, elbows, wrists, hips, knees, and ankles are points of movement. Include eyebrows, lashes, ears, and hairline on head. Ask children to name the part they wish to see moved, or to move themselves along with the man, telling you what they are doing.

Materials: Cardboard (see pattern below) and paper fasteners.

Comments or Cautions: For kindergarteners you may want to print names of parts on the figure. For older children with good cutting skills, each child who is interested might make a movable man of his own.

Keep in a special place and use at special times so that the movable man does not get mutilated.

L-16 Flashlight Pointer

Uses: Social-emotional (fear of the dark)
Language

Description: Use a small flashlight with a narrow beam to point to specific objects in the room or pictures in a book to encourage language. Children may use it for the same purpose, pointing to objects and saying something about them.

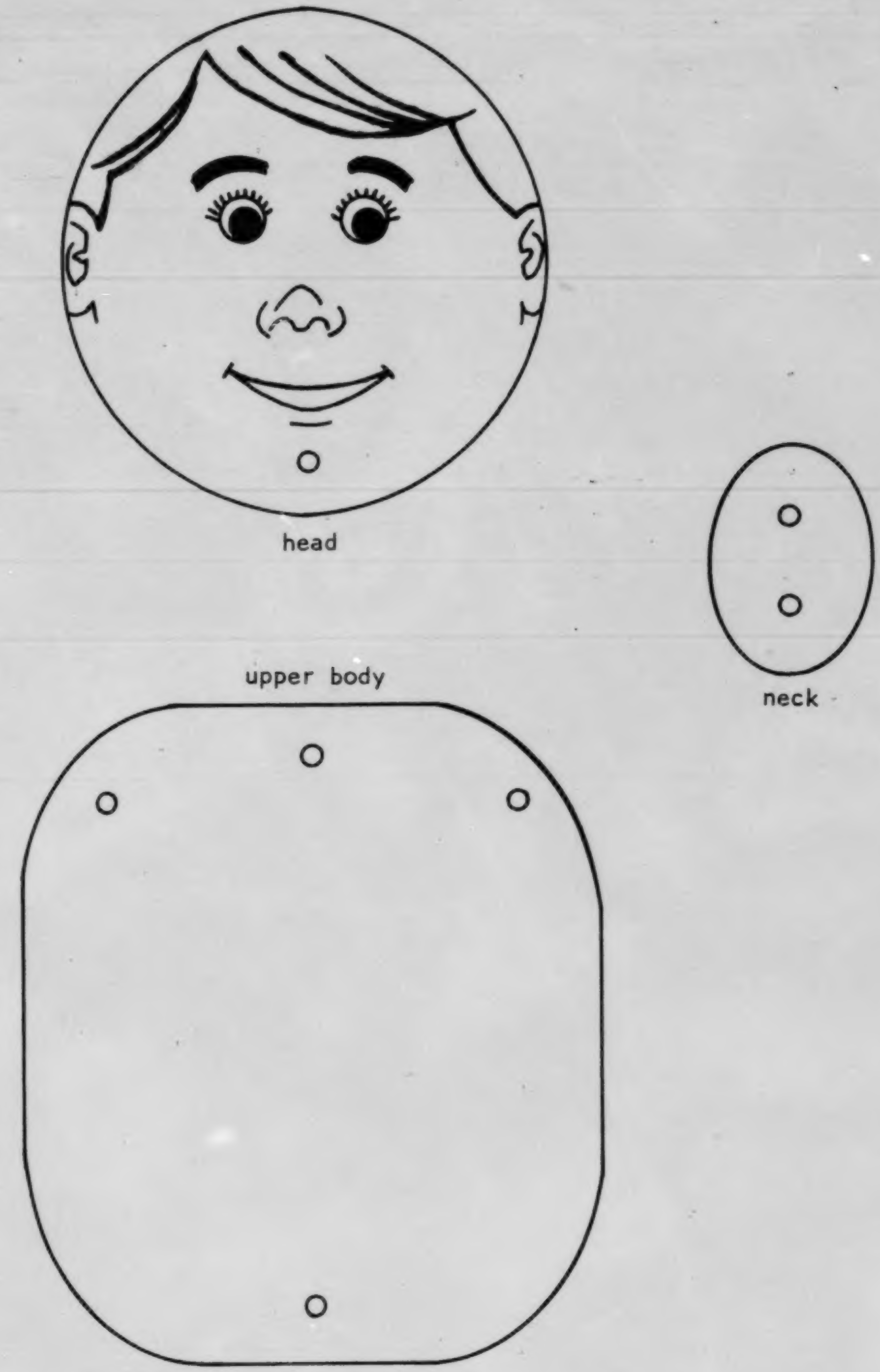
A flashlight may be used as a distraction to help a child who is feeling upset; or it may be used with a child who is fearful of the dark, by going with him into a dark closet or hall to look for something.

Materials: Small flashlight.

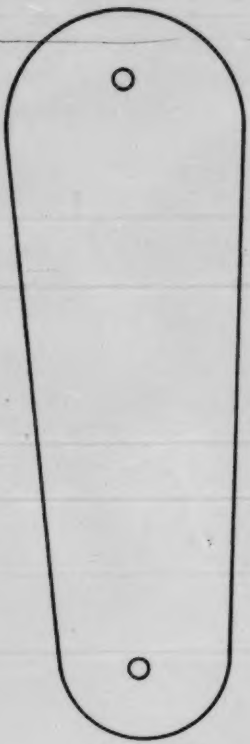
Comments or Cautions: Children are usually interested in flashlights, but often do not think of something specific to use them for, and concentrate on taking them apart. Looking at the parts and seeing how it works is valid but limits use.

L-17 Using Megaphones

Uses: Social-emotional (interaction with other children)
Language

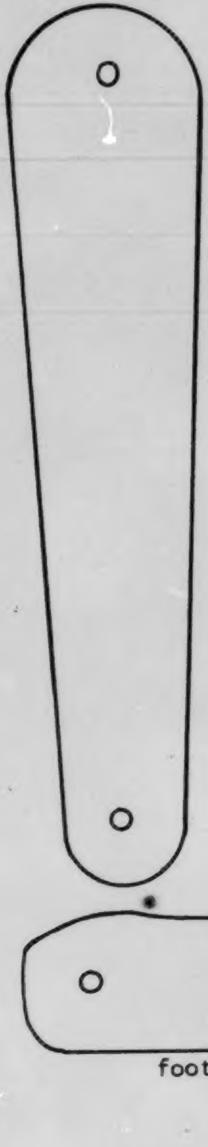

head
neck
upper body

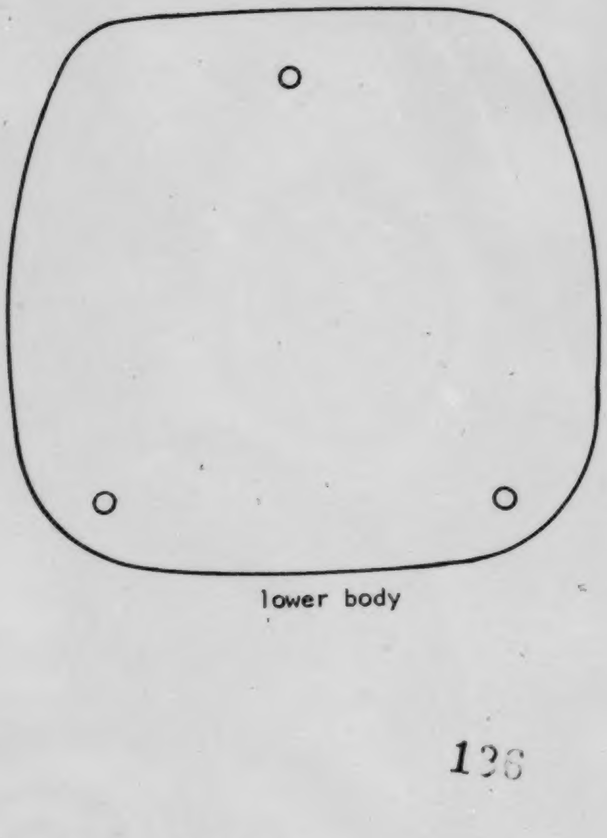
Pattern for movable man, Activity L-15



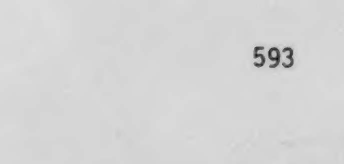
upper leg

lower leg



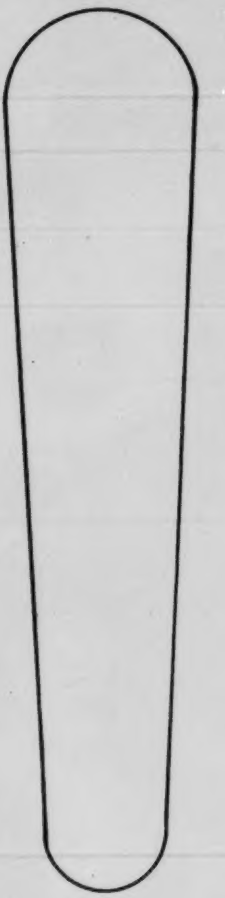


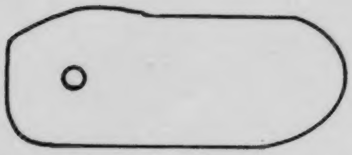
lower body



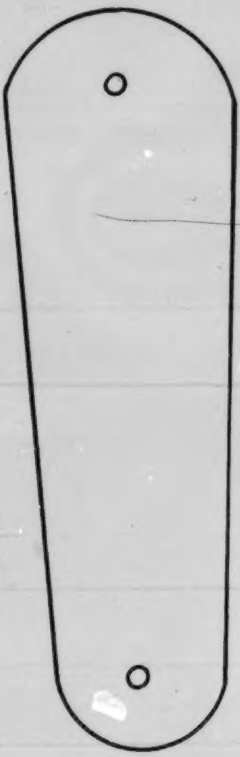
foot

lower leg

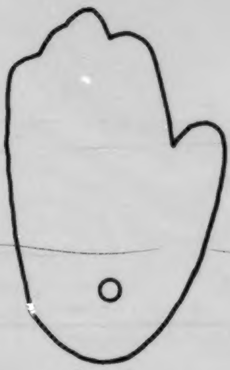




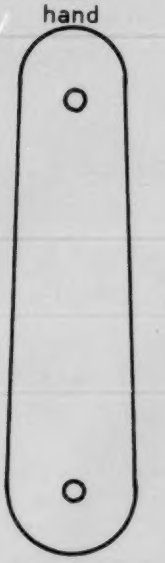
foot



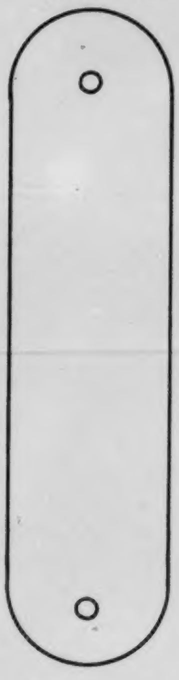
upper leg



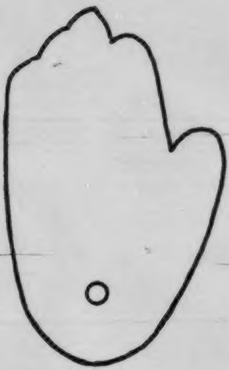
hand



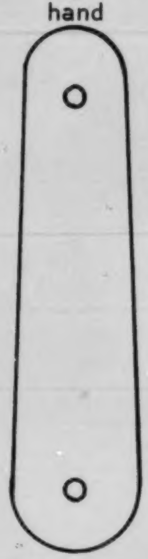
lower arm



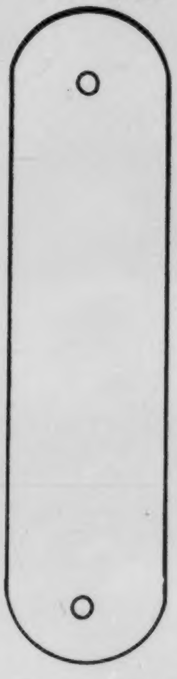
upper arm



hand



lower arm



upper arm

Description: Two children stand on hollow blocks or large boxes and pretend they are on opposite mountain tops and want to talk with one another. Teacher might make suggestions to start conversation but this will probably be less necessary as interest in this activity will generate itself. They can play such games as "Echo" (one child repeats what the other says) or any creative game of their own invention.

Materials: Real megaphones can be purchased rather inexpensively; or simple ones can be made from rolled construction paper, tagboard, or root beer containers.

Comments or Cautions: This could prove a very loud activity and should be played outside. *Be sure that no one uses the megaphone to yell into someone else's ear.*

L-18 Whisper Tube Talking

Uses:
Social-emotional (interaction with adults and children)
Language
Conceptual (loud, soft, and auditory discrimination)

Description: The children sit in a circle, each with a paper tube. The teacher thinks of a sentence, whispers it through her tube to the next child in the circle. This continues until the sentence gets around the circle. The last child says the sentence out loud and the teacher says her sentence. If they match, they have done a good job of tube talking. At the beginning, the teacher should be sure to choose sentences of immediate interest to the children. "We're going to the cafeteria for ice cream today." "Tomorrow is Marcia's birthday." etc. Sentences can get more complicated and difficult as children become adept. Soon children will be able to initiate the game and play by themselves.

Materials: Tubes from tissue paper, paper towels, etc.

Comments or Cautions: Encourage children to speak softly or whisper to avoid hurting ears. The use of the tubes needs definite limits. Children may get upset if they cannot hear or understand the sentence. For this reason it is good to start with just two or three children and very simple sentences.

This technique might be used to approach shy children or overstimulated children, or to say, "You did a good job. Tell Jane what you are doing." Sometimes a child will whisper through the tube when he will not speak aloud.

Shhhhsh Bang (A Whispering Book) by Margaret Wise Brown can be used with this game.

L-19 Word Rings

Uses: Social-emotional (self-concept)
Language (words)

Description: Often one or more children in a group of four- or five-year-olds will become very interested in what words say, asking about road signs, labels on boxes, or signs about the classroom. At this point some of them might be interested in making word rings. The teacher writes on a small piece of cardboard which has a hole in one end whatever word the child would like to keep. He then puts this on his ring, which already has one card with his name on it. Each day while interest lasts, the teacher can add a card with the child's choice of his next word, and can review with him his previously chosen words. The easiest way to keep track of these rings is to provide a pegboard with hooks where each child has a hook with a label.

Materials: Large notebook rings or heavy cord which can be tied and untied easily; cardboard strips (the most efficient way to produce these, if needed in quantity, is to punch a row of holes along the long side of a 3" x 5" card, approximately 3/4" apart; then cut the card into 3/4" strips with a paper cutter); and a medium weight magic marker.

Comments or Cautions: The words should always come from the child rather than the teacher in order to be sure that they are really of interest to him, and the teacher should not try to get the child to choose words which are "primer type." He may want to see "dinosaur" or "Superman," not "dog" or "cat." Neither should it be expected that the child will know all the words on the ring, or that knowing them is a requirement for getting a new one. The major purpose of this activity is not to teach individual words, but to arouse interest and enthusiasm toward the whole process of reading.

L-20 Word Matching

Uses: Perceptual-motor
Language

Description: Cut several bright, interesting pictures from magazines and mount on light cardboard. Underneath print in clear large printing the name of the object. Copy the same word onto another piece of cardboard, approximately 1" x 6". Be sure that the two words match. (One easy way to do this is to print all the words on paper once, and have the paper photocopied.)

Lay the pictures out on a table or set them up against a wall so that they can easily be seen. Lay the strips out in front in random order. Then point to the word under the picture and say, for example, "This word says 'elephant.' Can you find the same word on one of the strips?" When the child has chosen a strip, have him hold it next to the word under the picture to see if it matches.

Materials: Pictures mounted on cardboard with appropriate words beneath and matching words mounted on cardboard strips.

Comments or Cautions: Play with only two or three children at a time to avoid crowding in front of the pictures. At the beginning it may be better to use only two or three pictures, adding more as children understand the game. Pictures may be of one category such as animals, fruit, or toys, or may be miscellaneous. One interesting category is "action words." This category could include a picture of a girl running or a bird flying with "running" and "flying" underneath. Children who enjoy the game may want to make their own labeled pictures by finding, cutting out, pasting pictures and telling the teacher what labels to print.

L-21 Listen and Do

Uses:

Large motor
Small motor
Social-emotional (following directions)
Conceptual (prepositions and memory)

Description: This activity is designed to help children listen, remember, and follow directions by making a game out of the process. The teacher tells the child she is going to ask him to do two or three things and will see if he can remember what to do and what order to do it in. Some examples might include, "Dick, go shut the door, jump over the book, and sit under this table." The directions might also be ones which could be followed in one position, such as "Touch your nose, clap your hands, close your eyes." Children will enjoy the game getting "harder" as more instructions are given. (See also *LM-14, Gymnastics.*)

Materials: General playground and classroom equipment or materials.

Comments or Cautions: With very young children, start with one direction, then two before trying three. With shy children, ask them to do something easy which does not require them to move from where they are sitting.

L-22 Jump Up and Do Something

Uses:

Large motor
Social-emotional (following directions)
Conceptual (colors and numbers)

Description: This can be played with a fairly large group of children as long as there is adequate room. The teacher gives each child a card with either a square of color or a number on it, depending on which concept she is teaching. Two or more children will have the same color or number. Then the teacher gives a direction such as, "All the reds put their hands on their heads," "All the threes jump up and down," varying the instructions each time.

This game can be played at several different levels. For young children who do not know their colors (or numerals, if being played with numbers), the teacher can limit the colors or numerals to two or three and tell each child as she gives him his card what color or number it is. As children learn, more can be added. With groups of children who are more advanced, a wider range of cards can be used with such colors as lavender or turquoise and numbers above ten. Finally two concepts could be used at once, for example having cards with blue or yellow numbers, so that the teacher would say, "Blue sevens pat their heads, and yellow sevens clap their hands."

Materials: Cards depicting appropriate concepts.

Comments or Cautions: Remind children who do not remember their colors or numbers or who are not paying attention, but do it in a spirit of fun. Like all concept games, this loses its value if children become anxious or bored.

L-23 Rhyming Words

Uses: Language
Conceptual (auditory discrimination)

Description: Cut from an inexpensive "pictionary" or catalogue sets of pictures that rhyme (cat, hat, rat, bat, etc.). Put these sets into envelopes, paste the picture on front to start the rhyming set, with *one* picture that does not rhyme in each set. Back the pictures on tagboard for durability. Encourage children to find all of the pictures in the set that rhyme. To make the sets more difficult, include in a set of six pictures two or three sets of two pictures of rhyming words.

Materials: Pictures from "pictionary" or catalogues and envelopes with one picture pasted on front.

Comments or Cautions: Use only with children who have already shown that they understand what is meant by a rhyme and that they are able to rhyme one-syllable words. This can be determined by playing *L-31, The Mistake Game*, using rhyming words.

L-24 How Are They Alike?

Uses: Language
Conceptual (similarities, differences, and various other concepts)

Description: In the first part of the game the teacher holds up a series of cards two at a time. In the beginning the pictures or drawings on them will either be exactly alike (e.g., two red circles or two identical pictures of dogs) or completely different (a red circle and a blue triangle or a picture of a kite and a picture of a potato). She asks the children to tell her whether they are alike or different, and then to name them for her.

When the group is able to respond correctly to these variations, the teacher holds up two pictures which have some characteristic in common, but are otherwise different, for example a red ball and a red cap, and asks, "How are they alike?" Or she may show two pictures which are very similar, but have some characteristic which is different, for example a set of twins, a boy and a girl, or two cars identical except for color, and asks, "How are they different?" If children enjoy this game and become skillful at it, the similarities and differences can be made more difficult and abstract as the year progresses. Fives may be able to correctly explain how an apple, peach, and banana are alike, or how a wooden spoon and a metal spoon are different.

A valuable variation is to take two actual objects and compare them. One might take two apples, for example, and point out that two pictures of apples can be exactly alike, but that two real apples are always just a little different. The children could examine them carefully to look for the differences.

Materials: Similar real objects and sets of cards showing objects or forms which are either alike or different (use magazine cutouts or draw your own).

Comments or Cautions: Even three-year-olds enjoy the simplest form of this activity if it is introduced as a game and played only as long as interest holds.

Telling how two pictures are both alike *and* different is quite difficult, and should be asked only after the group has mastered the easier versions.

L-25 What's in the Box? (Guessing Game)

Uses: Social-emotional (curiosity)
Language
Conceptual

Description: The teacher hides an object in a box with a lid. She then describes the object using whatever descriptive terms are appropriate. At first the items should be real, full-scale objects such as a banana, or puzzle piece, or a mitten. Later the teacher can say, "I have a picture of ...." Children then try to guess what she has.

The suggested items for this game include familiar household objects, toy animals, machines, tools, foods, toy members of the family, community workers, etc. Once they have mastered the art of description, encourage children to take over this game and play it among themselves with little teacher help or direction.

Materials: A box with lid, large enough to hold objects, and appealing or interesting objects.

Comments or Cautions: This game can be followed later by *L-30, The Say Something Game*.

L-26 What Is Gone? or What Is New?

Uses: Social-emotional (curiosity)
Language
Conceptual (memory)

Description: Put three small objects in an egg carton or tray or put three flannelboard characters on a flannelboard and ask the children to name them. Then tell them you are going to add something or take something away. Put up a cardboard screen or ask the children to close their eyes. Then ask a child to tell you what is gone or what is new.

At first only take away or add at any one sitting of the game if the children are confused by not knowing which to expect. As variations, more objects can be added for greater difficulty, or the objects can be changed in position on the tray each time something is added or removed.

Materials: A tray and a variety of small objects or toys, or a flannelboard and flannelboard story characters.

Comments or Cautions: If there are very shy or nonverbal children in the group, play the version where something new is added first, so that the child only needs to point to the new object if he cannot say the word. Later he can be encouraged to say the word also.

L-27 Chain Story

Uses:
Language
Memory

Description: The general procedure for a chain story is for someone to start a story, beginning with a few interesting sentences or a short paragraph, then stop and let someone else continue to a stopping point, then turn the story over to another person. With fours or fives this can be successful if the teacher starts with a story that is *very well known* by the children. Flannelboard stories or using story books will help the child tell about what will happen next by looking before telling.

Materials: A well known story, using book or flannelboard characters.

Comments or Cautions: If this procedure is successful or if the group or individual child seems ready, the teacher could start an imaginative story and let the children draw upon their imaginations to finish the story. This requires a good deal of skill and should not be attempted until the teacher is sure the experience will be successful.

L-28 Listening for Initial Sounds

Uses: Language
Conceptual (auditory discrimination)

Description: Put a variety of objects, toys, or pictures on a tray. These should start with a few initial sounds. Choose a child whose name begins with this sound, e.g., "Mary, your name begins with the sound of M - Mary. Can you find something on the tray that begins with the same sound as your name, M?" Such items might include mitten, mouse (toy), marble, mirror, etc. The letter could be shown as the items are chosen. Limit the number of items in the beginning, but have something starting with the first initial of each child in the group. Play with only four or five children at one time.

As a variation, have a variety of objects on the tray, all of which start with one or two letters, for example, beater, book, box, bag, pencil, paper, potato, and peanut. Pick up one item, ask the child for its name and then ask if he can find something else that starts with the same sound. If a child gives an alternate name for something, for example "sack" instead of "bag," the teacher could say, "Yes, sometimes we call that a sack; but for this game let's call it a bag."

Materials: Variety of objects, toys, or pictures (a "pictionary" is often a good source) and a large tray.

Comments or Cautions: This would probably be most successful with mature fives; however, some fours may be interested in the game.

Be sure to emphasize the sound the name starts with, not the name of the letter at this stage. However, if a child says, "My name starts with a 'C'," stop to talk about the fact that the name of the letter is "C," but the sound is "kk."

L-29 Show and Tell

Uses: Language
Social-emotional (self-concept)

Description: Children can be encouraged to bring to school anything which they think other children might be interested in and to talk to the others about it. The teacher should also be aware of a special event, a trip, or activity that a child has been involved in so he can have an opportunity to tell the others about it. At first or with young children, the teacher may have to ask specific questions to help the child begin to talk.

Materials: None.

Comments or Cautions: "Show and Tell" as a regular part of the program in the kindergarten often becomes too long, too much dominated by the same children, and lacking in interest and educational value. The experience can be much more meaningful if it is handled more informally, in a small group, or with just one other child or adult.

When things are brought from home, problems can arise when other children demand to play with them. If this seems to cause problems a special place should be set aside to keep these items until going home.

L-30 The Say Something Game

Uses: Social-emotional (interaction with other children)
Language
Concepts

Description: The purpose of this simple game is to increase the child's ability to communicate with others. It may be played in a number of different ways, each introduced as a new way to play the "Say Something" game.

The first stage is a simple guessing game. The teacher says, "I'm going to say something about a child in this room, and I want you to tell me who it is." She then describes the child in terms of whatever attribute she wants to stress at this point: "He has a red shirt"; "She's a new friend from England"; or "He's the boy who set the juice table today."

As a variation for use of memory the teacher moves to people, well known to the children, but not in the room: "A girl who is sick today," "Someone's father who helped us put our jungle-gym together," or "A man who gave us something to eat last week." (The grocer visited on a field trip.)

The same kind of guessing games can be played in reference to things or places instead of people: "Something we slide on when the snow comes," or "A place we walked to when the leaves were coming down in the fall."

The second way to play does not involve guessing, but has the children say something. The teacher says, "Now Maria, say something about Jose's shirt," or "About the juice we had today." As children improve at the game, she can move to something more abstract like, "Say something about bears," or "Tell me something you like to eat."

In the third stage, the game again becomes a guessing game with a child taking the role of the teacher in the first stage and posing the questions. (This is more difficult than it sounds.)

Materials: None.

Comments or Cautions: Play *L-25, What's in the Box* first.

When children are ready, they love games of this kind; but they should be played only with children who really seem interested. Thus, with kindergarteners it might be played with the total group, but usually with only four or five younger children. Three-year-olds can play the first version, and probably all children should start with it. Then the group can move to the more difficult games as they progress.

To hold interest it is important to keep the pace moving. If children do not respond fairly quickly in the teacher-directed game, she should give hints; in the child-centered game the teacher can say, "That's a hard one; can you help us with some hints?"

In the event that one or two children tend to dominate the answering, the teacher can call on someone to answer if she is fairly sure that the child knows but is too shy to volunteer.

L-31 The Mistake Game

Uses: Language
Conceptual (auditory discrimination)

Description: The teacher chooses sets of go-together words. These may be things which go together because they have the same initial sounds or rhyme or because they represent concept categories such as foods, colors, shapes, clothing, etc. She tells the children that she is going to say the names of colors, for example. If they listen carefully they are going to hear her make a mistake and when they hear it, they should clap their hands so they can stop her and tell her the mistake. Start with sets of three or four words and speak slowly, adding more words and quickening the pace as the children become adept. An example for colors might be: "Blue, purple, brown, leaves." (Clap) For rhymes, the teacher might say, "Hat, bat, cow." (Clap)

As a variation the teacher can say, "I'm going to put some pictures of food on the flannelboard. Whenever I put a picture of food up, say its name. When I put up a picture that isn't food, don't say anything--just clap your hands. Then you can tell us what it is."

Materials: Pictures backed with sandpaper and flannelboard (needed for variation).

Comments or Cautions: Try to avoid giving cues to children by changing pace or voice level on the "mistake" word.

L-32 What Did I Do?

Uses: Language
Conceptual (memory and sequencing)

Description: The teacher goes through a sequence of activities, then stops and asks the children to tell her what she did. The activities should be logically related to each other, but simple and clearly spaced out so that children can see where one action stops and another starts. Later the teacher can do a series of unrelated activities or just go through a process normally without stopping and see how well the children can describe it. At first the sequence should be very brief, to make the game easy and fun.

Children will particularly enjoy this game if the sequence is amusing. An example might be: (1) The teacher takes a milk carton out of a box. (2) She tries to open it in the usual way, is frustrated, and says, "I can't get it open." (3) She opens it with a table knife. (4) She pretends to start to drink and says, angrily, "It's empty; there's no milk inside." Silly, but the children love it.

Materials: None.

Comments or Cautions: This is a game for mature fours and fives and not all children of this age are ready for it. Children can play this game with each other after playing it with the teacher, but need to be reminded to do only three or four things and to keep it simple.

As an easier variation the teacher may simply pantomime a single activity and ask children what she is doing, for example, brushing her teeth, typing, or combing her hair.

L-33 Who Said That?

Uses: Social-emotional (interaction among children)
Language
Conceptual (auditory discrimination)

Description:	One child leaves the room or covers his eyes, and the teacher points to a child who is to say or sing something. What he is to say or sing should usually be decided ahead of time and might be some refrain from a well known song such as "All fall down" or from a story: "Who's that walking over my bridge?" The child who is to guess keeps his eyes closed while the other child is speaking or singing and then tries to guess his name.
Materials:	None.
Comments or Cautions:	This is a game most appropriate for mature fours and fives. Younger children may have trouble keeping their eyes closed.

L-34 Find the Penny

Uses:	Language Conceptual (memory and miscellaneous concepts)
Description:	This game may be played in several different ways. If the aim is primarily language production, the teacher plays it as follows. Three, four, or five jar lids with various pictures, patches of color, or forms are placed on the table. The teacher shows them to the children and says, "I'm going to hide the penny (or other interesting flat item) under one of the lids." She then shields the lids from the children, hides the penny under one, and removes the screen. She asks each child in turn to answer in complete sentences: "It's under the blue one"; or "It's under the one with the flower on it." If the child simply points, the teacher says, "Tell me." When all the children have guessed, she picks up the lids one by one until the penny is discovered. Though a very simple game, if done with an air of showmanship, the children love it.
Materials:	Jar lids with pictures or symbols on top and a penny or other item of interest.
Comments or Cautions:	Older children will enjoy playing this game by themselves in which case it may be better to substitute some other object for the penny.

L-35 Estimating Numbers

Uses: Language
Conceptual (numbers)

Description: Bring in a glass jar containing a number of small objects such as lima beans, marbles, or (for a special treat) jellybeans wrapped in Saran Wrap. Ask the children to guess how many are in the jar, and write each child's guess on the board. Then have the children count together with the teacher the actual number of objects. If jellybeans or some other edible item is used, the children can then help in the equal dividing of the items. (Be sure there are enough to come out even.)

Materials: Glass or jar and objects to be counted.

Comments or Cautions: This is a very interesting activity to give children practice in thinking about and counting numbers in the teens or higher. Children need not be able to count this high themselves, as they will be counting with the teacher. Later children can play this game by themselves with one child counting items into the jar out of sight and then asking another child to estimate the quanitity.

AUDITORY DISCRIMINATION ACTIVITIES

L-36 Water Harmonica

Uses: Language
Conceptual (volume, high-low, and auditory discrimination)

Description: Fill several goblets (stem glasses), purchased from the dimestore, with different amounts of water. Strike each goblet with a spoon or clapper and listen to the different sounds. Let the children experiment with the pouring, noting how full or empty the glass is and the difference in sound as the goblet is filled or emptied. Allow for much experimentation.

Materials: Goblets (stemmed, clear glass) or baby food jars; colored water (optional--however, it makes it easy to see whether the glasses are full, empty, half-full, etc.); clapper; pouring pitcher; and sponges or paper towels.

Comments or Cautions: Though all children who are interested should have a chance to experiment with this, the number doing so at one time must be limited. A tray or taped off area on the table will define where to use the goblets. Expect spills and be prepared.

The concepts of high and low tones may be discussed if children have previously been introduced to these ideas in relation to singing.

L-37 The Sounds of Containers

Uses: Language
Conceptual (weight and auditory discrimination)

Description: Using a variety of containers, tap each with a metal spoon, a wooden spoon, and rubber spoon and listen to the differences in sound each one makes. Experiment by filling some of the containers with sand, feathers, styrofoam, beads, dried foods, water, etc., and distinguish differences in sound. Let children, after watching and listening once or twice, close their eyes and guess the one that is being tapped. Encourage creative descriptions of the sounds, e.g., thuddy, tinkly, tinny, etc. Note changes in sound when filling and emptying containers.

Materials: A variety of containers such as pottery mugs, glasses of various shapes and thicknesses, cans, plastic containers, bottles, jars, and boxes made of wood and cardboard; and fillers such as water, feathers, sand, dirt, pebbles, beads, dried foods, leaves, nuts and bolts or other hardware, rice, cardamon seeds, macaroni, sugar, corn, etc.

Comments or Cautions: This is a good activity for free play at the exploring table. If children are allowed to fill the containers themselves, they can feel differences in texture as well as listening to sounds. However, supervision is necessary to avoid excessive spilling or eating contents.

L-38 Identifying Hidden Noises

Uses: Social-emotional (curiosity)
Language
Conceptual (auditory discrimination)

Description: The children sit around a table or on the floor while the teacher makes noises behind a screen. She then asks the children to identify the sound without seeing the source. A flannelboard, easel, door, or partition would make a good screen. Suggested sounds include an egg beater, pouring water, clicking tongue, clapping hands, cutting with scissors, popping a balloon, sanding wood with sandpaper, crumpling paper (cellophane or paper bag), chewing celery, slamming door, and snapping fingers.

Materials: Egg beater; water, pitcher, and a glass; celery; cellophane or paper bag; scissors and paper; balloon; sandpaper, wood, etc.

Comments or Cautions: If children have difficulty, let them see and listen first and then try to just listen. If there are easily frightened children, leave out the balloon.

L-39 Counting Noises

Uses: Conceptual (numbers and auditory discrimination)

Description: The children hide their eyes while the teacher taps a piece of wood or a triangle, strikes a note on the piano, or hits a drum. When she stops, she asks one child to tell her how many times he heard the noise. A metronome set at a very slow speed may also be used. Start with one to three sounds and increase as children are able to count more. It may be possible to have another child do the tapping, if he can be helped to do it slowly and regularly. Later the teacher might use a series of different sounds: two drum beats, one piano note, etc.

Materials: Triangle, drum, piano, temple block, metronome, or anything that makes a satisfactory noise.

L-40 Sounds of Dropped Objects

Uses: Conceptual (weight and auditory discrimination)

Description: The teacher puts a tray full of various objects in front of the children and lets them look at it. She then has the children close their eyes while she drops something onto the table or floor and asks them to guess what she dropped. This could be followed by a discussion of breakable and non-breakable objects. "Why do you think I didn't have a glass on the tray?"

Materials: Sets of four or five objects such as pill, match folder, ball, spoon, peanut, piece of folder paper, man's hat, block, etc.

Comments or Cautions: The children may get to be very good at this game, and two sets of objects can be combined after they have had a chance to try each set separately. As a variation you can drop the objects without letting the children see them first, and then let them feel, but not look, for further cues to identification.

Chapter 16
Science Activities

Introduction

Teachers often are hesitant about the teaching of science, thinking of it as something apart from the rest of the early childhood curriculum, a subject which always requires doing something new and difficult like hooking up electromagnets or setting up a pendulum. This is unfortunate because the really basic goals of a science program are both simple to achieve and very important to a child's total intellectual growth.

The first goal is simply to help the child develop a "questioning" attitude--to be curious about the world around him and willing to exert himself to find the answers to his questions.

The second goal is to give the child some of the skills and the knowledge of how to go about finding answers to questions, learning such things as:

1. How do you ask questions?
2. Who can answer your questions?
3. Where can you find books that have the kind of information in them that you need (and someone to read them to you)?
4. What are the steps that you take in solving a problem or doing an experiment?

These two goals have been considered so basic that we have discussed them in the section on Social-Emotional Development. (See *Curiosity* and *Problem Solving*.) It is worthwhile to read or reread these sections before presenting any of the science activities in order to see how a project which focuses on something specific like learning about floating and sinking can be used as well for the broader goals.

If a teacher does no more for a child than help him develop these skills, that child would be well on the way to becoming a scientist. However, it is obvious that if one is indeed successful in developing such skills, it is not possible to stop there, because the child will not stop. Having become curious and having learned how to satisfy his curiosity, he will want to find out everything he can about the world around him: the name of the bird on the feeding tray, how you measure an inchworm, why birds can fly and people cannot. Then the teacher's role is to provide the resources in the way of physical objects, field experiences, books, and her own knowledge to let the child learn.

As we will point out in the introduction to the next chapter, these goals apply as well to the social sciences as to the physical and biological sciences. However, because it is more usual to consider the latter separately, in this section we have provided activities which give children a chance to answer their questions about the physical properties of their world, such as color, weight, and volume and about the animal and plant life that surrounds them.

In the field of science there are many excellent source materials which can be used by the teacher as references for her own use. In the Bibliography there are several books and pamphlets which will be useful for the teacher to have on hand for reference. In the book section we list the Thomas Crowell, *Let's Read and Find Out* series as good books to use with the children.

Science materials can be ordered through regular school supply houses or through science supply houses. The Montessori catalogue has good material for mathematics and measurement.

Just what you buy in science equipment depends on your children and budget, but each schoolroom should have as basic equipment large institutional size glass jars for growing seeds and keeping insects; plastic flowerpots and low planting boxes for plants and bulbs; a cage with narrow wires or screen for small animals; large wooden box for middlesized visiting animals; a bird feeder; glass aquarium with a lid for gerbils, turtles, salamanders, and snakes, as well as fish; magnifying glasses; magnets; tape measures, rulers, yardsticks; scales (balance type if possible); and flashlights.

Beyong this equipment the expenditures will depend on the age of the children, the kind of background they come from, and the teacher's own interests. If she does a great deal with science, it might be good to try to find a source of science materials which can be obtained without the delay of ordering from a supply house. For example, if one only wants a few pieces of litmus paper or some special food for one animal, laboratories at local colleges, businesses, or the high school science department might be able to help. Staff in such places can also be of tremendous help with answers to questions. It is good to know whom to call for information when one needs it quickly.

S-1 Plants in the Classroom

Uses:	Social-emotional (creativity, curiosity, and taking responsibility) Conceptual (plants, life, and growth)
Description:	Plants can be used for a wide variety of purposes in the classroom, one of which is simply to make the room more pleasant. Children also enjoy watering them. Plants originally brought in to be decorative may become the focus of discussion and exploration when children become interested. For example, the children can learn about a plant's need for water by seeing what happens if someone forgets to water it or about its need for light by seeing its reaction to being kept in the dark for a period of time. The teacher should be willing to sacrifice a small plant so that the children can see its root structure as well as stem,

leaves, and flowers. (Of course all such experiences need to be tied to questions on the part of the children or to other experiences about plants, not just presented in isolation.)

The teacher may also bring in plants especially for study or encourage children to bring examples in themselves. A weed which a child has found at the edge of the road can provide the basis for discussing the parts of plants, what a weed is, and how plants distribute their seeds.

Children should also, of course, have the experience of growing plants themselves. However, it should be expected that the very slow growth of most plants may prove very frustrating to preschoolers. Therefore with three-year-olds, the teacher may want to take the major responsibility for the planting and avoid getting the children too excited in expectation of seeing new plants coming up immediately. Even older children need to be warned that plants take a long time to grow. Perhaps they could mark on the calendar approximately when the plants might be expected to come up.

The following are some simple ways of growing plants in the schoolroom:

Alfalfa sprouts. This is an exception to the rule that plants take a long time. Buy alfalfa seed for sprouting at a health food store (not seed for alfalfa tea which may not sprout and *definitely not seed for planting*, which may be treated with insecticides). Soak the seeds in water overnight, spread out on a plate or tray and keep covered with a wet towel. With luck the seeds will sprout in one to two days and can be eaten for snack or fed to pet animals in about four days. (Sprouts can be stored in the refrigerator for several days.)

Bean sprouts. These take longer than alfalfa, but still produce edible sprouts in about a week. Mung bean sprouts are particularly good and can be used in Oriental dishes.

Grass seed. This also grows rapidly on a damp sponge if you get quick sprouting grass. It lasts longer than alfalfa sprouts, but cannot be eaten. However, it can be cut and fed to guinea pigs.

Growing seeds next to glass. Children can watch the whole process of sprouting if seeds are planted next to the outside of a glass jar, far enough from the bottom so that there is room for the roots. Various kinds of beans, corns, or smaller seeds can be used. (Pinto beans are especially good.)

Sweet potatoes. If a sweet potato is suspended in the neck of a jar by sticking toothpicks into the potato, and the lower part is covered with water, with luck, a rapidly growing vine will result. At the same time the teacher might bring into the classroom an entire sweet potato plant which had been pulled up to show roots and tubers (at the right time of the year).

Narcissus and other bulbs. Children should have the experience of seeing that plants grow from seeds, eyes (as in potatoes and sweet potatoes), and bulbs. Narcissus bulbs can be planted in rocks or sand in late winter to produce flowers inside in early spring. (Get complete directions with the bulbs.) Older children can plant bulbs outside in the fall and see the results in the spring. (Be sure you buy bulbs of a type to produce flowers the first year.)

Outdoor gardens. Growing plants outside can be an exciting experience for children, but what is practical depends entirely on the climate and length of the school year. Consult your local garden expert. One experience which provides continuity from one year to the next for children who will return is to plant in the spring, fall flowering plants such as zinnias to be picked by children returning in the fall. Be sure someone is available to water during the summer if school is not in session.

S-2 Measuring Plant Growth

Uses: Conceptual (size, measurement, numbers, growth, and plants)

Description: Fast growing plants are good for observing growth. Stick tongue depressors, popsicle sticks or tinker toy sticks into the soil of a plant which is just coming up. With magic marker mark off inches on the stick. The children can tell how much the plant has grown and may be able to count the inches. If the plant is large or of the climbing variety, a heavy piece of string or twine could be rooted in the soil and taped up on the wall or even to the ceiling. If the growth of several plants is being compared, a chart could be put behind the potted seeds.

Materials: Quickly growing plants such as rye grass or pinto beans, pots, soil, and markers (string, charts, sticks).

Comments or Cautions: Kindergarten children studying nutrition might compare growth of plants given fertilizer and those not. (Activity would need to be preceded by other discussion and interest on part of children in "experiments.")

S-3 Collecting and Pressing Flowers

Uses: Large motor
Conceptual (plants, flowers, and seasons)

Description: Take a nature walk and gather some flowers and leaves of the season. Place between two sheets of paper (blotters work well). Put flowers under some heavy objects and leave until they are dried. Later in the winter months, bring out the dried flowers and visit the place you picked them earlier. Talk about what happens to flowers in the winter and why this happens. The changes (color, texture, etc.) that have taken place (live flower to dried flower) can be discussed. Color pictures of the flowers that were picked might make the changes more dramatic.

Materials: Flowers, blotter paper, and heavy books or furniture to press the flowers.

Comments or Cautions: Label each child's flowers so he can recognize them when they are dried.

If children do not live in an area where they can take walks in fields or woods, perhaps flower-bearing weeds can be found in vacant lots or a trip might be made to the florist or a street flower seller to buy a bunch of daisies, one for each child.

S-4 Preparing Leaves

Uses:

Perceptual-motor
Social-emotional (attention span)
Small motor
Conceptual (plants, seasons, and two-dimensional form)

Description:

Collect leaves of interesting shapes and colors, both before and after they turn in the fall. Tear pieces of wax paper about 15 inches long. Place leaves on wax paper, cover with another piece of wax paper, and press with warm iron. Use several thicknesses of newspaper on table under the leaves, paper, and iron. These will look attractive hung in a window.

In the process of preserving leaves, children can be encouraged to match the shapes of different leaves and to talk about how they are different. A permanent matching game could be made (with help from the teacher) by using clear contact paper instead of wax paper. The leaves will not keep their color, but will be beautiful and interesting even after the color is gone. Older children may learn the names of some leaves.

A variation for teaching numbers is to make separate pictures of 1, 2, 3, 4, 5, etc. leaves with the appropriate numeral cut out of colored paper and also pressed in with the leaves.

Materials:

Leaves, wax paper, iron and asbestos pad, newspaper or clear contact paper.

Comments or Cautions:

Set iron in a spot where cord will not be in a position to get tripped over. Iron should be supervised by adult so that it does not get turned to a hot position. Very little heat is needed.

If contact paper is used, let children place leaves on sticky side on one sheet of contact paper, then teacher places second sheet on top and children rub it down. (If top sheet is placed crooked or with wrinkles, there is no way to get it up again.)

S-5 "Forcing" Spring Leaves and Flowers

Uses: Social-emotional (curiosity)
Conceptual (seasons, spring, temperature, sequencing, and plants)

Description: During the first warm days in the spring, bring in a branch from a tree that is just beginning to bud such as forsythia, pussy willow, or fruit trees and place in water. As it begins to develop, ask children why they think that it is leafing or budding faster inside than are the branches outside. When it dries and must be thrown away, help them think about why it could not keep on living.

Materials: Tree branches and jars.

S-6 Animals in the Classroom

Uses: Social-emotional (security, responsibility, initiation of activity, relationship with teacher, sharing, and curiosity)
Conceptual (animals, life, growth, reproduction, ways of moving, and body parts)

Description: Probably nowhere in the whole curriculum is the caution that the teacher should keep her own interests and needs in mind more pertinent than in relationship to experiences with animals. Certainly all children should be able to observe, touch, and care for a variety of animals during a school program; but the numbers, types, and duration of stay can vary a great deal.

At the one extreme is the teacher who really does not enjoy animals and who finds that the responsibility for their well-being is a continuous worry to her (or who has a principal or janitor who disapproves of resident animals on principle). She may provide good experiences for her children by arranging to have people who know and enjoy animals bring them in frequently, explain their needs and habits to the children, and then take them away again.

At the other extreme a teacher who loves animals, knows how to care for them, and does not mind the work involved may have a room which looks like a zoo. Such a teacher can use the animals in the room as continuous educational tools, using the care of a turtle as a way of making one child feel responsible and adequate, a guinea pig as a friend for an unhappy and insecure child, the birth of gerbils as a lesson in reproduction--she may even help kindergarten children learn about experimentation by setting up simple learning studies or varying diets.

The typical school will probably be somewhere in between these two extremes.

Materials: We have decided not to try to give detailed descriptions of the care of animals in this book since any teacher who decides to keep animals needs to be *very* well informed about their particular needs. One good source is Guthrie, E., *Home Book of Animal Care*, which gives directions on almost any animal which could conceivably be kept in a classroom.

Comments or Cautions: However, we would like to give some general comments and cautions from our experience. First, it is important to be sure that the animals in the room are indeed worth the effort being spent on them.

Unless the teacher just enjoys having them there for her own satisfaction, she should be sure that they are serving real needs of the children. For example, a tank of fish may be fascinating to young children when they first arrive at school, but not of much interest by December if the children are too young to take primary responsibility for their care. At Cornell there was for a long time a resident rabbit who was finally sent off to a home in the country because he was very inactive and not affectionate and because the children lost interest in him. On the other hand some affectionate animals such as guinea pigs may become essential members of the staff, so important are they to the children.

Second, there is always the problem of protecting the animals as well as the children. The continuous anxiety that an animal may be hurt is one of the reasons why some teachers find it too difficult to keep them in the room for long periods of time. However, most teachers agree that occasional injury or death of an animal as the result of improper handling can occur, but that it is rare if children are shown how to handle carefully and if strict limits as to treatment of the animals are laid down. They feel that proper care is something which children must learn at some time, and that the school is usually in a better position to teach such care than the home. However, exceptions exist in the case of very immature or disturbed children. If some of the children are too young to understand the need for care or if one or more are either highly aggressive or impulsive, it may be necessary to limit animals in the room to only those times when one adult can supervise closely.

Third, if visiting animals are brought in the teacher must be sure that they are either in a closed container so that they cannot possibly bite or that their backgrounds are well known so that the possibility of disease can be ruled out. (This means that captured wild animals or stray kittens or puppies should not be allowed in the room.) Though the occurrence of rabies is infrequent, it is found in both wild and domestic animals; and the treatment for a child who has been bitten by a possibly rabid animal is so drastic that the necessity for it should be avoided at all costs.

Just a very few suggestions from our experience:

Guinea pigs which have been handled regularly from birth are usually very gentle animals which children can hold or pet. The major problem is that their boxes become very smelly and can breed flies if not kept clean. Be sure to have a plastic liner in the bottom of the box.

Rabbits when young are also gentle and good for loving. As they get older they may become less friendly and bite. They also need to be watched when loose in the room because they eat strange things (like visitor's purses).

Gerbils are fun to watch and easy to keep clean. However, they frequently bite and should be kept in their cages. As with mice, gerbils are good for teaching about reproduction; fathers should be removed from cage to keep them from eating the babies. Do not put gerbils together who have been reared apart; the results can be tragic.

Salamanders and newts are interesting but must be watched carefully so that they do not get onto the floor and get stepped on or lost. (They dry out and die very quickly away from water.)

Snakes such as grass snakes are fine for a short time if the teacher knows how to handle them. Again it is important to keep them safely in a jar or cage. A loose snake is extremely hard to catch, and the response by adults or children who fear snakes may have a negative effect on the other children.

S-7 Observing Birds

Uses:	Perceptual-motor Social-emotional (responsibility, initiation of activity, and curiosity) Conceptual (birds, seasons, and ways of moving)
Description:	Construct or buy a bird feeder. (See *TTT-32 through 34, Bird Feeders.*) It should be close to the nursery school window. Know the birds in your area and what they like to eat. Have pictures of the different kinds of birds that visit the feeder and encourage the children to notice the different food preferences of the species. As the seasons change, notice the different varieties of birds that visit the feeder. A discussion of migration could be introduced at this time. Help the children develop a responsibility for seeing that the feeder is kept replenished.
Materials:	Bird feeder, appropriate bird food, and pictures of the birds that visit your area.
Comments or Cautions:	The birds will begin to depend on your feeder. See that it is kept full during vacations. Be sure that it is safe from cats.

S-8 Animal Maze

Uses:
Social-emotional (curiosity)
Large motor
Conceptual (heavy-light, safety, and "learning")

Description: Using fiberboard or wooden building blocks, set up an enclosed path of travel for small pets. Mice, guinea pigs, gerbils, rats, or turtles are the most interesting. Set the animal's food in a remote place and watch it search to find it.

Materials: Blocks, animals, and newspaper.

Comments or Cautions: It is wise to line the floor with paper first for easy cleanup.

Set a limit to the height of the maze wall so that the blocks will not fall on the animals. Have the maze done before animals are placed in it to avoid loss or injury during construction.

Kindergarten children might want to do experiments to see how many times it takes for the animal to learn where its food is, or whether it will go to food or water most often.

S-9 Measuring Children's Heights

Uses:
Social-emotional (self-concept)
Conceptual (measurement, growth, age, size, health, and nutrition)

Description: Cut strips of brown paper, more than the height of each child, six inches wide, or use one long brown paper roll with a place for each child. Tape on the wall and with a magic marker and a yardstick, draw a line on the brown paper strip the height of each child and note the feet and inches. The strips are left permanently on the wall or are rolled up and stored until the next measurement is taken in three or four months. Use a different color magic marker each time the child is measured so he can see his rate of growth.

Materials: Large roll of brown paper, yardstick, and magic markers.

Comments or Cautions: Do not line up the children in order of size. Encourage the child's interest in his growth as it relates to him personally.

If children become concerned about who is tallest, point out that some children are taller than others, just as some grown-ups are taller than others, but that all children grow. (Teachers, janitor, cook, and visitors can also be measured. This provides a good chance for discussion of the relationship between age and size.)

S-10 The Visiting Baby

Uses: Social-emotional (initiation of activity)
Conceptual (family members, growth, weight, size, linear measurement, sequencing, health, and nutrition)

Description: The mother of a very young baby is asked to bring him into the classroom for a brief period of time on a regular basis, perhaps once a month throughout the year. If there is a child with a new brother or sister, this is done easily, otherwise some other baby must be recruited. Depending upon the age and maturity of the children they are encouraged to observe the child in different ways. The baby may be weighed and measured in the classroom and a record kept of what the baby was able to do at each visit, either by the teacher or by the children. The discussion can be led to what a baby eats and why, why his diet changes when his teeth come in and as he grows, why he still has to wear diapers, when he will be toilet trained, how much he can see, and what he "knows," etc.

Materials: One or more cooperative mothers with babies.

Comments or Cautions: Great care must be used in being sure that the children do not hurt the baby, but other than this their interests should be followed up as much as possible. If some of them want to hold the baby or feed him when he gets a little older this might be possible. Try to choose a mother who will enjoy the experience and ask her to come at a time when she can stay as long as the children are interested and when the baby is likely to be happy.

S-11 Baby Pictures

Uses: Social-emotional (self-concept and curiosity)
Conceptual (age, growth, and family members)

Description: To help children understand that all living things grow, the teacher might bring in pictures of many different baby animals and a picture of herself as a baby. She could then suggest via a newsletter to parents that children bring in baby pictures of themselves, and try to get other staff such as cook, janitor, or director also to bring in pictures. These could be placed on the bulletin board and made the subject of a guessing game, "Who did this baby turn into?" Baby animals and human beings could be in separate games or the same game.

Materials: A variety of baby pictures.

Comments or Cautions: Be sure that parents do not send irreplaceable pictures to school. In the case of a child whose pictures are too valuable to send or who does not have baby pictures, let him look through a magazine of baby pictures and choose the baby that he thinks he might have looked like. (Such magazines are often available in infant departments or are sent to expectant mothers.)

S-12 Functions of the Body
(Mature fours and fives only)

Uses: Conceptual (body functions)

Description: Using a flannelboard with a schematic outline of the body outlined on it in yarn the teacher says something like the following. "This is supposed to be the outside of a child's body. Now we're going to pretend that we can look inside and see what's inside. First we're going to put in a picture of the lungs." (Place flannel cutouts of the lungs in the appropriate spot.) "Do you know what they're for? To pull in the air that our bodies need. You try putting your hands on your chest over your lungs and breathe in and out. Can you feel your chest going up and down?" Procede in the same way with the heart and stomach, in the former case having children feel their own heart beat or listen with a stethoscope, in the latter giving each child something to chew and swallow, then asking where it goes.

Materials: Flannelboard, cutouts of lungs, heart, and stomach (copy from the encyclopedia).

Comments or Cautions: The teacher should use this task only if she feels comfortable with it and if relevant questions had been raised by the children. Be sure the children understand that the real organs are quite different from the flannel cutouts; the latter are only "flat pictures." If older children seem very interested, you might bring in illustrations showing other organs.

S-13 Weather Report

Uses: Social-emotional (responsibility and interaction with children)
Conceptual (weather, seasons, measurement, signs and symbols, and temperature)

Description: One or more children can be given the responsibility for making a weather report. This can be done verbally or in the form of a simple chart with weather symbols on it. The whole procedure can be as simple or elaborate as warranted by the age and interest of the children. For threes it might consist simply of moving a marker on a chart to the proper temperature (hot, warm, cool, cold) and weather (sunny, cloudy, raining, snowing) with each illustrated by a picture. For mature fives it might involve dialing the recorded weather forecast one day, noting it on a chart and checking the next day to see if the report was accurate. Children could note the temperature indoors and out, rain or snowfall through a homemade rain gauge (a large can with painted inch markings up one side on the inside) and report on wind through checking a homemade wind sock. The weather report could be followed by discussion of what the children wore that day and what effect the weather has had on them.

Materials: Homemade rain gauge and wind indicator, and clear thermometers for inside and out.

Comments or Cautions: This activity will probably not be successful if it is "required" every day. How frequently it is done depends on interest. A few children *may* enjoy observing the weather every day. Listening to radio and telephone weather reports is often very interesting to fives.

S-14 Weather Doll

Uses: Small motor
Conceptual (weather and temperature)

Description: A felt doll with different clothing for different weather is made for the flannelboard. Umbrella, snowsuit, mittens, sweater, raincoat, boots, rubbers, and bathing suit, should be cut from felt as well as sun, snowflakes, raindrops, and clouds. Children can take turns dressing the doll appropriately for the weather on a specific day, or her clothes may be changed in a discussion about seasons.

Materials: Felt doll (a commercial one is made by Color-Form).

Comments or Cautions: Making this doll is a sizeable project for a teacher to undertake. It would be a good contribution for a talented mother or grandmother to make to the class. Once made its use needs to be carefully supervised as it is somewhat fragile.

S-15 Hot and Cold

Uses: Social-emotional (curiosity)
Conceptual (temperature, seasons, and volume)

Description: Using water play area, provide a pan of snow and/or ice cubes and pitchers or buckets of hot water (not hot enough to burn child). Provide each child with his own bucket or similar container. Fill children's containers half-full of hot water. Discuss how it feels. Let children dip snow or ice and mix it into hot water and watch it melt. If a candy or bath thermometer is available, they can see that the temperature of the water goes down as the ice melts.

Materials: Plastic buckets or pans, hot tap water, snow or ice cubes, waterproof aprons, towels, and thermometer.

Comments or Cautions: *Let a child help determine the heat of the water. Sometimes teachers' hands are less sensitive.*

Variations depend on interest and maturity of children. The oldest might do quite involved experiments with measured amounts of water of varying temperatures and repeated temperature taking.

S-16 Cellophane Tubes

Uses:
Small motor
Conceptual (color mixing)

Description: Cover one end of a toilet tissue or paper towel tube with colored cellophane. The cellophane can be attached to the end with rubber bands. Use a variety of colors. These could be fun to use as "telescopes" or could be left in the doll corner to encourage dramatic play. Children may like to experiment with two tubes of the same or different colors of cellophane. By using a flashlight at the end of the tube, colored spots can be thrown on the wall or ceiling, and with two flashlights and two tubes it is possible to move two colored spots toward each other and merge them to produce a mixed color. (The teacher will need to demonstrate the first time and discuss the meaning of the experiment.)

Materials: Tissue tubes or paper towel tubes, a variety of colors of cellophane, and rubber bands.

Comments or Cautions: *If tubes are taken outside be careful children do not look directly at the sun.*

S-17 Color Mixing

Uses:
Social-emotional (curiosity)
Small motor
Perceptual-motor
Conceptual (colors)

Description: Place a number of containers on trays, some with clear water (white container helps colors show up better), some with red, yellow, blue colored water, and some empty. Suggest to the children that they experiment with mixing colors, using the eyedropper.

Children may also use medicine droppers to mix paint on glazed paper lying flat on the table.

Materials: Medicine droppers, food coloring, and water; low, flat containers: white egg carton, white plastic divided candy box, or small white refrigerator dishes; tray; and paper towels.

Comments or Cautions: Protect the table with a tray or old towel under the project.

This needs supervision if children are to concentrate on the color mixing rather than just the activity of pouring. For the latter purpose colored water may be introduced in the water play table. (See also *A-24, Paper Towel Dyeing.*)

S-18 Photosensitive Paper

Uses: Social-emotional (attention span)
Conceptual (sequencing and two-dimensional form)

Description: Obtain photosensitive paper in sheets from a photo supply shop. Cut into small pieces. Have each child choose an object which he wants to print and take it out into the sunshine, where he places the object on his piece of paper and exposes it. Then the child goes back into the classroom where another teacher is waiting with a pan of fixer to develop the image. Objects might include natural items such as leaves, alphabet letters, or any small thing which a child wants to use. Teachers can also use this process to make intriguing lotto games.

Materials: Photosensitive paper and fixer, and any small objects.

Comments or Cautions: *Fixer is poisonous. Have a teacher with it at all times in the classroom and store outside the classroom when not in use.* For the details of the exposing and fixing process ask for information at the store where the materials are bought.

This is a very good activity to introduce children to the nature of light, something about the photographic process, and of course as an exercise in form.

S-19 Balloons of Different Weights

Uses: Social-emotional (curiosity)
Conceptual (weight, gas, and liquid)

Description: If there is a local store which sells helium-filled balloons, bring one to class along with two balloons of the same size and color (plus some spares). Blow up one balloon with air and fill the second with water. Questions can then be asked as to why one balloon floats in the air, one can be hit up to the ceiling, but comes down again, and the third cannot even be lifted. Children should be helped to try to decide these questions themselves, *not given an illustrated lecture.*

Materials: Three balloons, one helium-filled, plus spares; and large pan to hold water-filled balloon.

Comments or Cautions: *One would, of course, not substitute any inflammable gas for helium.* The water-filled balloon may break in the process so keep it in a large deep tray or pan.

S-20 Sinking and Floating

Uses: Small motor
Social-emotional (curiosity)
Conceptual (weight, floating, and sinking)

Description: Provide at the water play area various containers and objects that float and some large and small washers. Plastic bowls, cups, and various lengths of 2" x 4" with nails or dowels driven in the centers are good floaters. Washers are counted and put into the containers until they sink or the washers are placed over the dowel or nail until the wooden "boat" sinks. Encourage children to make weight distinctions (the larger the wooden boat or container the more washers needed to sink, large washers sink objects faster than small washers, etc.).

Limit the items at first but allow time for experimentation with a variety of objects.

Materials: Plastic bowls, cups, etc.; and wooden "boats" made from wood scraps with large nails or dowels in center to hold washers.

Comments or Cautions: *Sharp end of nail should be protected.*

If your purpose is to help the children discover weight distinctions be sure number of objects is limited at first.

S-21 Magnets

Uses: Small motor
Social-emotional (curiosity)
Conceptual (materials)

Description: While the principles which govern magnetism are too difficult for preschoolers, playing with magnets does teach about materials in a very special way--that even substances which seem quite similar can be very different. Children also have a lot of fun manipulating small magnets. (Show how to make them repel as well as attract.)

Provide a tray or box full of objects made from many different materials, metallic and nonmetallic. Two smaller boxes could be used to sort those which are attracted by the magnet and those which are nonmagnetic. A variety of magnets of different sizes could also be provided. One way to present them is to assemble all the objects mentioned in *Mickey's Magnet*, let the children experiment with them first, then read the book to see how their own experience fits with Mickey's. (See the Children's Book List in the Appendix.)

Materials: Magnets of various types (from either school or science supply houses) and magnetic and nonmagnetic objects.

Comments or Cautions: Electromagnets can also be used if there is a teacher who knows how to set one up; however, simpler magnets are less trouble and often more satisfying to the children because they can be carried around the room to experiment on all kinds of furniture and objects.

Children also have fun pulling a paper clip around a piece of cardboard by holding a magnet underneath or making the paper clip climb the side of a glass by moving the magnet up the outside.

S-22 Pulleys

Uses: Social-emotional (problem solving and interaction with other children)
Large motor
Conceptual (machines and weight)

Description: Rope and pulleys are arranged in such a way that children can lift buckets of pine cones, leaves, or sand from one place to another or carry an object such as a doll in a basket horizontally across the room or yard.

For older children a simple explanation as to the purpose of pulleys can be given. If possible, children might be taken to see conveyor belts using pulleys in a factory.

Materials: Pulleys, rope, and buckets.

Comments or Cautions: *Place the rope where it will not be run into by children or adults. Avoid objects which might fall and hurt someone. Careful and continuous supervision is needed. Be sure no one stands under the bucket.*

An exact explanation of how to do this is difficult. Find a mechanically minded janitor or parent and ask for help if you need it.

S-23 Working Parts of Machines

Uses: Small motor
Conceptual (machines, safety, and household objects)

Description: This activity helps children to see the movable parts in machinery, and encourages an understanding of what the parts do. Bring an inexpensive windup alarm clock into the room, take the back and face off and let the children watch the gears and wheels move the hands. Take apart a clock that has ceased to function and put the parts out on a tray. The cover of an old fishing reel is removed to expose the working parts. An egg beater has visible gears. If a bicycle is discarded, remove the chain along with the gears and pedals and bring into the room.

Materials: Windup alarm clock in working condition, clock which can be taken apart, fishing reel, egg beater, bicycle gears with chain and pedals, upright vacuum cleaner (remove bottom plate), or any old machine or tool that has movable parts. (Avoid ones that use electrical power unless cord is removed or used under teacher supervision.)

Comments or Cautions: *Watch out for fingers*. If there is any danger, bring the machine out only when a teacher is there.

S-24 Magnifying Glass

Uses:
Social-emotional (curiosity)
Conceptual (magnifying, size, plants, animals, and textures)

Description: To sharpen children's awareness of the "small" world keep a set of magnifying glasses in the room. They will be used particularly on the science table, reading corner, near plants, animals, etc. Encourage use to see detail or look at the textures in interesting posters, paintings, or any objects. Use outside to look at grass, dirt, worms, bugs, sidewalks, bark, etc. Children may simply enjoy looking at their own skin and clothing.

Materials: Magnifying glasses--Edmund Scientific or dimestore are good sources for inexpensive ones.

Comments or Cautions: Some limits and rules will need to be set. The magnifying glasses are breakable and some care is needed to preserve them. If these are taken on the playground, be careful that fires are not started accidentally or intentionally.

S-25 Sea Box--Rock Box

Uses: Conceptual (three-dimensional shapes, textures, and animals' habitats and protection)

Description: Gather a collection of interesting shells of sea animals, including coral or starfish if possible, and another collection of interesting stones and small rocks. In some parts of the country rocks containing fossils are easily obtainable. Put these in two shoe boxes labelled "sea box" and "rock box" and keep them where children can get at them easily. Let the children experiment freely with touching, looking for detail in form, color, texture, etc., and listening to the ocean. Encourage the child to wonder "Why does this animal need a shell? Why is this animal in a rock?" etc.

Materials: Shells--coral, starfish, seaweed; rocks--some with fossils if possible; and pictures of sea animals.

Comments or Cautions: Children can add rocks which they find on walks or sea shells brought back from the beach.

Pictures of some of the sea or fossilised animals in their natural habitats would be interesting.

Chapter 17
Social Science Activities

Introduction

The most important learnings in the social sciences are not in any way different from those learnings which were discussed in the introduction to the chapter of science activities. Our major goals are to help the child to be curious about the social world and interested in exploring and asking questions, rather than to teach him any number of particular facts. Thus social science differs from science only in terms of what it is that the child is curious about. It is primarily about different kinds of people and all the things that they do.

Just as examples, we are glad when a child:

1. Wonders what the teacher does when she is not being a teacher.
2. Feels free to ask the secretary what the carbon paper is for and having been told, asks why she needs an extra copy, and then experiments with trying to make copies of his own drawings.
3. Knows which book on the shelf has pictures of men building houses, so that he can look and find out (hopefully) what makes the roof stay on.
4. Asks the teacher to take the class to the library to find more books about Indians.

In the education of young children it is often difficult to label exactly what they are learning at any given time. As we have already said, different children may be learning very diverse things from the same experience. It is also difficult to put many experiences into traditional educational categories. When children watch carpenters building a house or bake a cake themselves, is what they are learning social science or science? If children play at being mothers and fathers, is this social science or social-emotional learning? In either case, the answer may be "Both" or "What difference does it make?" There is a problem, however, in trying to divide material for teachers in at least a somewhat logical way. Somewhat arbitrarily we have placed role play activities in this section and have discussed visitors to the classroom and field trips under those topics in Chapter 20, Miscellaneous Activities.

In addition to these activities, it should be noted that other sections of the manual include general suggestions for experiences about the somewhat broader range of social sciences. (See *General Suggestions for Teaching* under the topics *Time*, *Geography*, and *Cultural Similarities and Differences*.)

Classroom equipment for role playing is usually limited to doll play furniture (both child- and doll-size), and trucks, cars, and other vehicles of various sizes. However, there is no limit to the kinds of props which can be brought in or improvised when children become interested in some other area. A rocking horse could be borrowed and hitched to a rocking boat "sleigh" if children became interested in life of a hundred years ago. A typewriter might be brought in if some wanted to set up an office of their own, or plaid skirts borrowed for boys and girls who decided to be Scots after reading *Wee Gillis*.

SS-1 Daily Classroom Cleaning

Uses:
- Large motor
- Small motor
- Social-emotional (responsibility)
- Role playing (adults)
- Conceptual (household objects and sequencing)

Description: Children are daily provided with an opportunity to really become involved in the housekeeping of the nursery school. Jobs during cleaning period include picking up toys, followed by sweeping, mopping, sponging as needed, watering plants, washing blackboards, and cleaning paint containers and paintbrushes. Occasional larger jobs might include washing woodwork, cleaning out cupboards, or scrubbing furniture.

Materials: Smocks for children, brooms and sponge mops (adult-size with handles cut down to make it easy for children to use), sponges, pails, watering cans, and *lots* of newspapers to absorb water that spills.

Comments or Cautions: Teachers serve as resource persons during cleaning, i.e., teachers show by example. Teacher arranges cleaning cart and wheels it in. She shows each child how to use the tools he is given, e.g., "Remember how you wring out the sponge over the pan when it is filled with water" (said while teacher demonstrates what she means). Many children are very enthusiastic about cleaning period and have spent up to 45 minutes doing "real work." Much spontaneous singing can occur while this is going on among both children and teachers.

SS-2 Window or Mirror Washing

Uses:
Large motor
Social-emotional (interaction with another child)
Role playing (mother)
Conceptual (sequencing)

Description: Children may wash the windows or mirrors in the classroom. This activity can be used to draw a particularly shy child into a group activity, or to help introduce the idea of cooperative activity and responsibility for the classroom. If the classroom is on the first floor and one child can work on each side, it can be a very effective way of developing friendships or getting over angry feelings.

Materials: Paper towels or sponges, buckets or plastic containers, vinegar, and water.

Comments or Cautions: Be sure cleaning agents used are nontoxic and that the glass is sturdy. Cleanup may be a problem if too much water is used. Supervision is necessary, but teacher should not be concerned about the quality of the results. Doing a really good job of window washing is difficult even for adults.

SS- 3 Washing Dolls, Doll Clothes and Using Clothespins

Uses:	Small motor Social-emotional (responsibility and dramatic play) Conceptual (family roles, body parts, temperature, and household objects
Description:	Washable dolls may be washed in the bathroom sink, in the water play table, or in pans set on trays or towels. Some children will want to treat them like real babies, drying them carefully, powdering with pretend powder and dressing them. Others (especially threes) just enjoy the activity and are likely to leave the baby soaking in the sink. Doll clothes may be washed at the same time or on a different day. For clothes provide similar washing facilities, plus space for rinsing, and a tray or pan for carrying wet clothes to the line. Supervision is needed while children learn to wring out clothes and control drips. The clothesline may be inside or out; if the former, papers or plastic will need to be put on the floor. However, clothes need not be wet for children to enjoy hanging them on the line with clothespins. Even pieces of fabric or paper towels can be hung. Children may also help to pin up pictures, or clothespins might be used to hang leaves on a fence.
Materials:	Pans or sinks for washing, dolls and/or clothes, basket or tray for wet clothes, clothesline, and clothespins.
Comments or Cautions:	The song, "This is the way we wash our clothes" with variations such as "wash the baby" or "wash her hair" (or legs or chest, etc.) may be used. This is a good hot weather outdoor activity. Some young or poorly coordinated children may only be able to put a piece of cloth over the line, but this can also be a success experience. *Be sure that clothesline is not hung in a place where someone will walk into it. Show children how to use clothespins to avoid pinched fingers if pincher type are used.*

SS-4 Dress-up Play

Uses:
Language
Social-emotional (dramatic play, self-concept, and interaction with children)
Conceptual (family roles, household objects, and clothing)

Description: Usually no more encouragement for household play is necessary than simply providing a range of props. If the school can afford sturdy child-size kitchen furniture, doll bed, cradle, and buggy, they will serve for many years. In addition there should be several dolls, doll clothes and blankets, dress-up clothes for the children (a variety of men's and women's), and unbreakable dishes and pans. Other miscellaneous props can be introduced as they seem to be needed.

Materials: Doll furniture, commercial or improvised, and props as above. (See also *TTT-52, Dress-up Clothes*, and *TTT-53, Clothes Rack*.)

Comments or Cautions: As we have pointed out elsewhere, we want to help children to use their imaginations rather than props wherever possible. (See *Dramatic Play*.) Encourage this by suggesting that a child use a "pretend" item if he asks for something which is not available.

Also mentioned before is the importance of not imposing stereotypes on children or being critical of their interpretation of family roles.

SS-5 Dollhouse Play

Uses:
Language
Small motor
Social-emotional (dramatic play and interaction with other children)
Conceptual (family roles and household objects)

Description: Although most young children prefer large-scale doll play, many also enjoy playing with small dolls and dollhouses. These may be simple but sturdy commercial houses, furniture, and dolls; or all may be improvised by teacher and children from boxes.

cloth, clothespins, etc. (Even if the school has a good dollhouse, children often prefer to make their own.)

Materials: Dollhouse, furniture, and dolls. (See *TTT-25, Dollhouse.*)

SS-6 Moving Day

Uses:
Large motor
Small motor
Social-emotional (feelings about moving)
Role playing (moving man)
Conceptual (household objects and sequencing)

Description: Have an empty dollhouse in the doll corner and a large truck or box full of the dollhouse furniture. Tell the children a new family has just moved into the neighborhood and they need to move all their furniture into the dollhouse. Let the children take the items off the truck and move them into the house.

Materials: A dollhouse--this can be made or a manufactured one may be used; doll furniture--improvised from cardboard boxes, etc., or purchased; a large play truck or pasteboard box; and dollhouse dolls.

Comments or Cautions: This activity may be used also for concept development in which case the teacher might sit near the activity and talk with the children about the furniture and the rooms. However, if children want to arrange furniture in ways other than the traditional, for example the bathtub in the middle of the kitchen, this is all right, too.

If there are children in the room who have anxieties as the result of recent or impending moves, they may find some reassurance from the moving in and out process and want to repeat it over and over.

As an alternative, children often enjoy actually moving the furniture in the classroom if it is light enough to lift. In this case they should be expected to put it back where it came from.

SS-7 A House of Your Own

Uses: Social-emotional (cooperative play or privacy)
Role playing (family members)
Conceptual (household objects)

Description: Small "houses" in which one child may find a secure refuge or several children play house may be improvised in different ways. An adult-size table may be covered with a blanket; or a sheet or blanket may be draped over a frame made from chairs, room dividers or shelves; or large packing boxes may be used. Furnishings such as pillows, doll beds, etc., may be added as space allows.

Materials: Packing carton, table, or chairs; and sheet or blanket.

Comments or Cautions: The teacher needs to be sure that the arrangement is safe. For example, if a blanket is anchored with books or blocks she should be sure that they cannot be pulled over the edge. She also needs to decide whether a particular "house" is open to anyone for cooperative play or whether the child who has started to make use of it needs to be alone at that moment. (See *Interaction with Other Children.*)

Read *A Little House of Your Own*, by Beatrice DeRegniers.

SS-8 Grandmother or Grandfather Visits

Uses: Language
Social-emotional (interaction with others, initiation of activity)
Role playing (family members)

Description: A shy child or one who needs the attention of the other children may enjoy this simple activity. Grandmother (the child), comes to visit carrying a pocketbook full of surprises which she can give to each of the other children, or Grandfather comes carrying a small suitcase or briefcase. The child can be encouraged to tell about each object as it is given out.

Materials: Grandmother or grandfather outfit from the dress-up corner; large pocketbook or suitcase; and surprises (almost anything), buttons, toys, beads, pens, crayons, small books, etc.

Comments or Cautions: The teacher may need to help the child get started but care should be taken to leave when or if the child can continue on his own. At some point it should be made clear that this is a game played at school and that surprises stay at school.

SS-9 Packing Suitcases, Filling Purses

Uses:
Small motor
Social-emotional (cooperative play)
Role playing (adults)
Conceptual (weight and trips)

Description: Provide suitcases, flight bags, and purses in the doll play area. Encourage children to pack suitcases with dress-up clothes and shoes or any other articles they wish to pack. Talk about the things needed to go on a trip, what makes the suitcase heavy or light, etc. The purses can be filled with interesting objects of children's choice. Again refer to weight of purse, differences between suitcase and purse weight, etc. Descriptive guessing games can be played, "What's in the suitcase? (purse?)" etc. Many opportunities will arise to encourage role playing, visiting relatives, friends, etc.

Materials: Old suitcases and purses; clothes, shoes, wallets, change purses, compacts, jewelry, and toilet articles.

Comments or Cautions: This activity can be added as an elaboration of train, bus, or airplane play.

SS-10 Play Food in the Housekeeping Corner

Uses:
Conceptual (foods)
Social-emotional (dramatic play)

Description: Cut pictures of food from magazines or from cardboard packages such as crackers, pot pies, etc., and place on shelves in doll corner. (Children can help cut and paste.)

Use empty containers from snack time such as fruit cans, boxes used in cooking projects, etc., in housekeeping area or use for playing "store," etc.

Materials: Assortment of pictures and empty cans, containers, etc.

Comments or Cautions: If materials are not left in the corner all of the time, the children will probably use them more imaginatively when they are put out. This could be combined with grocery store play.

For older children printed labels can be attached to each picture.

SS-11 Grocery Store

Uses:
Language
Social-emotional (responsibility and interaction with other children)
Role playing (grocer, mother)
Conceptual (stores, food, money, and weight)

Description: Using tables, cupboards, or boxes for furniture and empty cans, empty food boxes, and imitation or real fruits and vegetables for food, the teacher can help the children set up a store. If a cash register is available, children can use toy money to buy things from the storekeeper. (Or a box can be used to keep the money in.) The customers can carry small baskets, or "groceries" may be put in paper bags.

For kindergarteners who are interested, marking items with prices may be used to add experiences with reading numbers and simple change-making operations. However, if this is done, discuss with the children what real food prices are like, if possible letting them make a trip to the store to check. "We say a can of peas is five cents because we're just learning to add and make change; in a real store it costs a lot more." (See *General Suggestions for Teaching*, under the topics *Numbers* and *Money*.)

As a variation for younger children, each carton or can (milk, cereal, soup, etc.) may be given a certain number of dots. For example, the milk carton has three red dots, egg carton four green dots, etc. The dots are the price and each child "pays" for his groceries with corresponding colored discs.

Materials: White aprons for store men and ladies (can be cut from old sheets); storage cupboards or boxes, table; empty cans, boxes, and fruits and vegetables; cash register or cash box; pennies and nickles or play money; paper bags or small baskets; and tiddlywink discs or colored buttons. Colored dots for the cartons can be cut easily from colored Scotch tape.

Comments or Cautions: Once the teacher has helped set up this activity, the children will probably initiate it on their own if the materials are left readily available in the classroom. It often will be related to doll corner play.

The teacher may sell a child "ice cream cones" to give to children or ask one to "go to the store for a can of pineapple," increasing participation of more children in pretend play, or helping some less skilled children find roles and ways of joining a group.

For help with concepts the teacher may take part in the play as a housewife shopping at the store or someone visiting and ask for certain foods or say something like, "I don't know exactly what I want but do you have something sweet?" or she may ask questions such as, "Where should we keep this food?" or "Does it need to be cooked before we eat it?" If the teacher is sensitive to the pace of the children's play, she can participate in this way when appropriate without being intrusive.

SS-12 Restaurant

Uses:
Language
Social-emotional (cooperative play and responsibility)
Role playing (restaurant worker, family members)
Conceptual (food, volume, and money)

Description: Set up one of the children's work tables as a counter with chairs on *one* side. Waitresses have aprons and the chef a hat made out of a piece of old sheet with elastic around the bottom. There could also be a dishwasher and a cashier with a "money" box for play coins or buttons.

This restaurant could specialize in Cherrios, Fruit Loops, raisins, or could serve something the children have cooked before.

Variations the children came up with:

Dressing up in dress-up clothes to "go out to dinner." (They even called a baby-sitter.) Parking spaces out of masking tape were marked off outside the restaurant for the truck drivers, so they could eat too.

Those who wanted to join, but stayed around the fringes, colored place mats for the restaurant.

Materials: Children's tables; chairs; doll corner dishes, silverware, and cooking pans; paper cups for serving water; food; and (optional) chef's hat, waitress aprons, button money.

Comments or Cautions: This play could be preceded by a visit to a restaurant to buy ice cream or lemonade.

Set food in separate plastic containers with serving spoons for easy "healthy" serving. Watch the food to see that it stays clean.

Do not try to make play too elaborate. Start simply and add props and roles as children come up with ideas or if other children need to have something to do to be included.

SS-13 Car Wash

Uses:
Large motor
Role playing (parent, big brother or sister, garage man)
Conceptual (sequencing)

Description: Naturally, this activity is feasible only if you can park a car close to a supply of water and safely away from moving cars. Try a "trike" wash if a car is not possible and use the same equipment.

With buckets, sponges, rags, and water (with a small amount of detergent) the children can scrub the tires, hub caps, doors, fenders, etc. This can be a marvelous group experience on a hot day. Very mature children *may* be able to use the hose turned on low.

Materials: Buckets, sponges or rags, water, one tabelspoon soap per bucket, and car or tricycles.

Comments or Cautions: Boots are suggested if it is too stoney for bare feet. Warn parents ahead of time to send children in old clothes.

Load up the buckets with clean water for the rinse job and save aside some clean rags, too.

Be sure that the car is parked in a flat area with brake on and in gear to prevent rolling. An adult must be in close supervision to prevent doors being closed on fingers, water in the gas tank, etc.

SS-14 Gas Station

Uses:
Language
Large motor
Social-emotional (cooperative play and responsibility)
Role playing (gas station attendant)
Conceptual (money, tools, volume, and liquid measurement)

Description: This activity can be basically simple but has more elaborate possibilities if the idea is appealing to the children. Tricycles and wagons serve as "cars."

In its simplest form, the gas pump could be a rope tied to a fence with a bicycle grip or paper tube attached to its free end for a nozzle.

The extended possibilities could be a gas station sign, a hat for the attendant, a gas pump made out of a packing box with a piece of an old hose for the pump line and another rope for an air hose. Button money or play money could be used for payments. Quart oil cans and gallon and five-gallon gas containers add volume concepts. A "tow truck" could go out to disabled cars. Other added features could be bike repairs, washing car windows, etc. With a stretch of the imagination there can be all kinds of jobs for interested bystanders.

Materials: Tricycles and wagons; rope; bike handle grip; and (optional) packing box, visored cap, window cleaner, rags.

Comments or Cautions: This activity could be preceded by having the bus stop at a station for service on the way back from a field trip if children in the group come from families without cars.

Be sure all containers are thoroughly cleaned.

SS-15 Small Cars and Sawdust or Taped Roads

Uses:
Small motor
Role playing (truck driver)
Conceptual (transportation and machines)

Description: Use a large cardboard carton and cut the sides down to about three inches high. Cover the bottom with about one-fourth inch of sawdust. Depending on the size of the group that is interested, use several boxes or just one big one.

Provide a selection of small cars, matchbox type or slightly larger; trucks can be used for construction crews. We had an assortment of snow plows, dump trucks, tractors and passenger cars. Sawdust is an *ideal, free* substance for road making, dumping into piles, and socialization.

Materials: Boxes, sawdust, and small cars and trucks.

Comments or Cautions: Some children just love to sift sawdust through their hands which disturbs the "road crew," so it is wise to have a special box for dreamers.

Be very firm about limits on throwing. Sawdust in the eyes is extremely painful. Have an eyecup available.

Alternative substances (in small boxes because of the cost) might be corn meal or cornstarch. Another form of play with small cars uses taped roads made from masking tape on the tops of tables or in the water play table.

SS-16 Airport

Uses:

Large motor
Social-emotional (cooperative play)
Conceptual (transportation, occupations, and geography)

Description: Children are given materials to construct "airplanes" from two tongue depressors, crossed over and taped together with masking tape. These can be painted or colored. A strip of brown wrapping paper about one foot by five to eight feet is taped to the floor and boxes and other building materials made available for the children to use as hangers, airport terminal, and control towers.

The exact directions which this activity takes should, of course, be determined by the children. Perhaps the first day the activity might be only making airplanes and flying them outside. The next day they might want to spend much time on the creation of the airport, cutting, painting, or arranging; or they may prefer to concentrate on dramatic play. With cues from the children the teacher can add more props such as an orange juice can to be used as a mike or earmuffs for earphones to be used by "the man in the control tower."

Materials: Brown wrapping paper; crayons and/or paints; building materials including large and small cardboard boxes and pieces of wood; tongue depressors; and adhesive or masking tape.

Comments or Cautions: This activity should arise either from the children's expressed interest in planes and airports or as part of a planned sequence which would include looking at books and pictures of planes, and possibly a trip to the airport.

SS-17 Railroad Train

Uses: Language
Social-emotional (cooperative play)
Role playing (train man)
Conceptual (transportation and money)

Description: Line cardboard boxes up one behind another, calling the front one the engine and the others passenger cars, one child per box. One child can serve as engineer; one child can be given a triangle, bell, or horn to start the train; another can make wheel sounds, etc. Pieces of paper can be distributed as "tickets" and taken up by a conductor. If available, a hole puncher can be used on them.

As an alternative, chairs can be lined up behind each other with an aisle between.

Materials: Empty, topless cardboard boxes 1' x 2' (approximately) or chairs; musical instruments or sound makers; and paper tickets.

Comments or Cautions: Since many children have not had experiences with trains, a book about trains should be read and pictures of trains put on the bulletin board before this activity is introduced. A similar activity could be set up for bus or plane travel.

With a younger or immature group, teacher involvement is needed, at least in the beginning. The activity can also be varied in complexity from just having a train which children play in as they like to the complicated role playing suggested above. If there is great interest, a freight train could be similarly constructed. Be careful to take cues from the children and not to push it beyond their interest.

SS-18 Doctor, Office, and Hospital

Uses: Social-emotional (overcoming fears of doctors)
Conceptual (occupations and health)

Description: In the dress-up corner the teacher could put white jackets and dresses as well as equipment found in doctor and nurse kits or gathered at home. (Chairs and magazines could be added to form a "waiting room" for the patients. A drug store to fill prescriptions might be added as play develops.)

Field trips to doctor's offices or hospitals are rarely possible, but children in a public school might make a visit to the first-aid room where the school nurse could explain what goes on there.

Materials: Doctor uniform--an old white shirt; nurse uniform--white shirt, nurse's hat either purchased, borrowed, or made from stiff white material; stethoscope; assortment of bandaids, cotton swabs, tongue depressors, tape, gauze strips, small plastic bottles, toy plastic thermometer; old magazines for waiting room; chairs; and dolls, child-size and baby dolls.

Comments or Cautions: Real stethoscope, disposable syringe without needle (available from doctor's office if not illegal in your state) and real medicine bottles (empty and washed) are preferable to the cheap toys from doctor and nurse kits. Thermometers, of course, must be from kits since real glass ones are too dangerous.

Avoid stereotype that boys are doctors, girls are nurses. Stress what each does. If possible have a visit from a woman doctor.

"Medicine" should be completely "pretend," not candy or colored water to avoid possible use of dangerous substitutes at home. Supervise to avoid possible injury from "temperature taking."

Chapter 18
Food Preparation Activities

Why We Emphasize Food Preparation at School

Cooking or preparing food provides a wide variety of experiences which give a child a sense of accomplishment, a chance to experiment, and a developing awareness of his own senses of taste, touch, and smell. In addition food preparation encourages small muscle skills and language development; and it offers firsthand experiences with many concepts such as color, texture, measurement, food, safety, health, nutrition, and sequencing.

A cooking activity may be used to help an individual child who seems to need a special activity with one adult. It may be a focus for a small group of children who need some help in doing something together cooperatively. It is especially suitable for the typical four-year-old who wants to play with other children, is anxious about who likes him, but has only crude skills for initiating and establishing contacts with others.

General Procedures and Cautions

It is important to choose activities and plan them in ways that the adult will not be overwhelmed by the mechanics of the "project." Be sure to be familiar with the recipe or directions, the steps involved, and what ingredients and equipment will be needed and have things ready. Set limits as to *where* actual preparations and eating will take place, and how many children can take part at a time. A cooking activity can be very chaotic if the adult does not plan for individual children and enforce appropriate limits. Consider the amount of adult supervision available. One may need to plan other activities which require less supervision. (For example, crayons at the easel instead of paint.)

Be aware of the climate of the classroom. For example, the few days before Christmas may *not* be the time for complicated cooking activities. It is not essential to do all the steps every time. Sometimes one will use mixes or prepared products and other times children should have the opportunity to combine basic ingredients. Be realistic about the amount of time and effort required and try easy projects at first.

Keep hot plates, knives, and dangerous equipment (including cords!) out of reach of children at all times unless there is an adult to supervise. If you are using a hot plate or electric fry pan, be sure there will be another adult in the same room. Use colored tape or a sheet of colored paper under the plate or pan to indicate the "off-limits" area.

Adults and children should wash hands before, and probably during, the cooking activity. Children will enjoy washing apples or anything which needs to be washed before using.

Mechanics

In setting up the procedures keep in mind the teaching goals of the particular activity. If interested in having each child explore the textural differences between oatmeal, white sugar, brown sugar, salt, and flour, one will set up the baking of oatmeal cookies differently than if the major concern were to provide a cooperative group project. In the course of any project a certain child may go off on a tangent of his own. To keep the operation moving and yet let him profit best from the experience, one might just move him to one side and let him pursue whatever he is interested in, whether giving him some extra flour to sift over and over, ingredients to feel, or extra apples to cut while the rest of the children complete the cooking.

Setting

One child may help an adult prepare the snack or his birthday cake in the kitchen, or a small group may cook within the classroom at a special table or in the housekeeping area. On some rare occasions each member of the whole group may have an opportunity to do the same thing such as cooking his own hot dog for lunch or dyeing a hard boiled egg. If the arrangement is set for the whole group to participate in one setting, try to provide something for the children to do while waiting for their turns, such as having carrot and celery sticks to eat while others are having their times to cook hot dogs. A child may be involved in an activity from beginning to completion or just during certain parts of the process. When possible, give children choices such as the color of frosting.

Utensils

There should be supplies for cooking and possibly duplicates in the housekeeping play area. Use a tray for assembling. A sponge is essential.

Wooden mixing spoons.
Measuring spoons, metal.
Measuring cups (see-through plastic or pryex with pouring spouts, in different sizes, "nested" cups for dry ingredients).
Rubber spatula for mixing and scraping.
Bowls with flat bottoms to prevent tipping. (Handles, pouring spout, and marks for measuring add usefulness and convenience.)
Dish cloth to dampen and put under mixing powl to prevent slipping.
Egg beater: *important* to invest in one that works smoothly.
Knives, inexpensive stainless steel table knives with rounded ends.

A small pitcher which a child can manage for pouring liquids into measuring cup (rather than from a full milk carton).

Low flat dish for breaking eggs into.

Paper baking cups.

Pans: 8" x 8" square, 9 1/2" x 12 3/4", and cooky sheets.

Pot holders and asbestos pad.

A pyrex double boiler may be a good investment because children can see what is happening.

A deep electric fry pan can be used for many things such as cooking applesauce, popping corn, baking cakes, melting snow. This plus a good electric hot plate can take the place of a regular stove.

Choice of Products and Ingredients

There is no limit to the numbers and kinds of foods which can be prepared. The teacher's choice will depend on the amount of time and help she has available, the educational reasons for the cooking project, and the place of the food in the children's diets. All-day programs can of course make more extensive use of products made by the children. With half-day programs the teacher must be careful to avoid too frequent cooking of cakes and cookies, which can ruin appetites for lunch. Be aware of nutritional needs and use fruits, vegetables, milk products, meat, and enriched cereals. Spreading cream cheese on celery sticks can be as interesting as frosting cookies.

Use of Ingredients

It is important for children sometimes to be able to see the ingredients in the containers they come from the store in, but generally these should be kept out of reach and used one at a time. A child may be given a small amount of flour or sugar to experiment with at another table but *not* the whole bag. If he seems to need to do more pouring, plastic cups at the sink area may be appropriate. Prudent placing of ingredients helps to avoid spills and confusion.

Each child may be given a paper baking cup with his name on it for his "tasting dish." The adult may place a small amount of the ingredient in the child's dish saying, "Here's some flour for Billy, and here's some for Peggy. Can you put a tiny bit on the end of your finger? How does it feel? Taste?" (Children should be helped to understand that tasting should be done only with the supervision of an adult and in small quantities.) If a child demonstrates that he can serve out a small amount and not eat from the serving spoon he might be allowed to do the serving. A serving spoon which goes into a child's mouth should be taken immediately to be washed with soap and water, usually by the child himself.

Samples of ingredients may be put into clear plastic containers or "feeling" bags to identify.

Mixing, Assembling, or Doing

A sense of order and calm is essential. Sometimes having the children sit around the table is helpful; about six is the limit at one time. (Other alternative activities should be available.) You may procede clockwise in participating--for example chanting, "This is the way Susie stirs the eggs, stirs the eggs, stirs the eggs. This is the way Susie stirs the eggs and passes them on to Tommy." Other children may pretend to stir. Again it is important to be aware of the number of steps which may be meaningful to the children. In the case of an activity such as cutting apples, several children can work at it at once.

Several children may pour a little bit or a quarter-cup of an ingredient such as milk into the measuring cup; or put some flour into a bowl so that children can dip out half-cups into a one-cup measuring cup.

Try to respond to the wide possiblity of tasks which may be meaningful to the child such as selecting the wooden mixing spoon from the drawer, opening the box of pudding, pouring "a little bit of" milk, feeling of the oven before it is turned on, and then feeling the heat. The adult can do much to create in the child a sense of wonder and enthusiasm and a trust in his own abilities if she plans carefully in a way that allows her to listen and respond to the child.

Correlation with Other Experiences

Whenever possible a food experience should not be isolated, but related to field trips, to current concept emphases, or to seasons and holidays. Talk about plans before beginning; review a picture recipe; and discuss afterwards what ingredients were put in, how it was made, and who did what.

Summary. Because food experiences can be used for so many purposes it has not been possible to list every possible use with each activity. In most cases we listed only those which were specific to the activity. Keep in mind that almost every one can be used for large or small motor skills, for language production, for learning to take responsibility and to share, as well as for a wide range of concepts. While we do not want to overstress safety, nutrition taste, or household objects as the children work with food, the possibility of talking about these concepts is always there. (See *Household Objects, Taste, Health and Nutrition,* and *Safety.*)

F-1 Setting the Table

Uses:

Large motor
Small motor
Perceptual-motor
Social-emotional (responsibility)
Conceptual (numbers and household objects)

Description: Certain children can be chosen to help set the table for juice and can be given as much responsibility as they are able to take. Threes may be able only to take glasses from a tray carried by the teacher to table and to put napkins around. When the menu is a simple one, eventually four-year-olds should be able to do everything, except pouring the juice from cans into pitchers. Of course, with more complicated menus involving the cutting or paring of fruits or vegetables, the teacher will need to help more or may want to involve the total group earlier in the class period.

Children can help by counting the number of places at each table and counting out the appropriate number of napkins and glasses. Children with advanced number concepts could count out the total number of cookies or crackers for each table. In some cases the helpers might be responsible for choosing the type of juice to be served on that particular day. They may pass the food around after children are seated.

Materials: Glasses, napkins, small pitchers, bowls for crackers, etc.

Comments or Cautions: The teachers should be careful to gauge the demands of the task to the level of the children and to make this task an interesting one and not something which children feel they must do.

While kindergarten teachers may want to make this a regular activity with children's names on a chart in rotation, the nursery school teacher will probably find it better to choose the helping child on the basis of who needs the experience most at that particular time. However, if one child wants to help but cannot do it on that day, his name could be put on the bulletin board as a reminder that the next day is his turn.

F-2 Group Responsibility at Snack Time

Uses:	Small motor Social-emotional (taking responsibility and helping others) Conceptual (counting and volume)
Description:	Place snack in baskets or lunch in small dishes, easy to pass. Instruct child to take two (or reasonable number) and pass the basket to the child next to him. Napkins may be passed this way or plates of food at lunchtime. Help children use each other's names and look to see if all have been served. With napkins, "Take one and pass the pile to Mary." Children can go to the kitchen for refills. Juice could be poured before children sit down; and then they pour seconds, passing the pitcher to whomever needs it.
Materials:	Pitchers which are easy for children to manage and serving dishes which are easy to handle and adequate for the number of tables or size of group. It is difficult for children to wait very long.
Comments or Cautions:	Lunchtime is more serene with the teacher sitting rather than hopping up and down, and children have experience of doing something meaningful and helping others as well as themselves.

F-3 Counting at Snack Time

Uses:	Social-emotional (sharing) Conceptual (numbers)
Description:	"Today we will take two crackers for our first serving" or "four bugles," "three cookies," "ten raisins" (maybe "several"), etc. Pass the dish of snacks around the table and children serve themselves, counting each item.
Materials:	Snacks of different sizes and shapes, and a flat dish which is easy to pass and select from.
Comments or Cautions:	In planning this activity keep in mind the level of the children's number concepts. If there are only a few snacks left in the dish, the teacher may designate one child to pass them out one at a time until there are not enough left to go around again. The children can then count those remaining to go "back in the box for next time." Do not overdo!

F-4 Birthday Celebrations

Uses: Social-emotional (self-concept)
Conceptual (age and growing)

Description: Birthdays need not be celebrated elaborately or with overly sweet food in order to be a satisfying experience. A birthday cake or cupcakes are not necessary if there is some simple ritual indicating the child's change of age, such as blowing out candles on a birthday "ring" or an artificial cake which is used for each birthday and something special such as a festive hat.

Helping with the preparations, making some choice about the snack, and giving the other children something such as a birthday napkin will make the child feel responsible as well as important. Let him stand up (if he wants to) while the others sing "Happy Birthday."

Concept formation can be aided by emphasizing such ideas as: "This is Johnny's birthday. This means he was born three years ago, yesterday he was two, and today he's three." All the children count the candles on the cake or ring.

If teachers can comfortably admit their ages, concepts of the differences between adults and children can be clarified by celebrating each teacher's birthday with candles to be counted and blown out by the teacher.

Materials: Any holder for candles which can be used again and again and some special birthday "prop" such as a hat.

Comments or Cautions: Mothers often want to bring in elaborate birthday parties. Since this leads to competition among children and often too much rich food, teachers should clarify at the beginning of the year the limits set on parties, e.g., no more than one small cupcake, no favors. Teachers should also be prepared to provide some special food for the child whose mother does not bring anything. To avoid this problem the school may prefer that no mothers bring party things. (However, sometimes imaginative mothers bringing in birthday pizzas, potato latkes, homemade ice cream, or other unusual treats have added something really worthwhile.)

F-5 Packing a Picnic Lunch

Uses: Small motor
Social-emotional (responsibility)
Conceptual (various concepts)

Description: Each child is given the chance to pack either a snack or a lunch for himself to be carried on a field trip, a walk, or just outside to eat. Menus can be as simple or as elaborate as the children can cope with. One might just include assembling a carton of milk, two cookies, and an apple and putting them into a paper bag. Older children might make a real project of the lunch preparation and fix carrot sticks, spread bread with butter, decide between cheese and cold meat for filling, and bake cookies. (However, it would probably be better to have the cookie baking activity done the previous day.)

If this activity is enjoyed and planned frequently, children might be helped to make themselves lunch pails from cut off Clorox bottles, painting pictures on them and making sturdy yarn handles. Each child's could be labeled with his name. Going a step further, the school might want to spend the money on buying plastic refrigerator dishes with lids for each child so that lunches could be covered with lids, and stacked in boxes for field trips. These could also be provided with handles and decorated.

Materials: Gallon Clorox bottles or refrigerator dishes, and appropriate food.

Comments or Cautions: Children love to eat out-of-doors, and such a picnic can solve practical problems such as reducing cleanup inside when staff is limited or how to provide a snack on a trip. Be sure to have a large plastic bag along for easy trash disposal.

F-6 Tasting Game

Uses: Social-emotional (curiosity)
Conceptual (taste)

Description: At juice time give each child a different kind of juice in a plastic cup with a top that has a place for a straw, in such a way that the color of the juice cannot be seen from the outside. Have the children identify their type of juice.

Materials: Cups with caps (like McDonald's cups), straws, different juices, e.g., grape, apple, orange, grapefruit, pineapple. Older children can have combination juices like orange-pineapple or pineapple-grapefruit.

F-7 Exploring Foods in Various Forms

Uses: Conceptual (food sources, texture, and taste)

Description: This series of activities could be used during snack time, mealtime, cooking time or in doll corner play. Children are introduced to the raw form of a fruit or vegetable and on subsequent days to the fruit or vegetable in its cooked, canned, frozen, or dried forms. The way the teacher introduces these ideas is done in her own individual way as she helps the child become aware of natural and processed foods.

Materials: Some suggested examples are raw shelled peas, cooked, canned, frozen; pineapple, canned in slices, canned crushed, candied; apples, applesauce, baked, dried, apple cereal, juice; coconut, shredded; carrots, small, whole, raw, cooked, sliced in rounds or strips, grated.

F-8 Real Food in Housekeeping Corner

Uses: Conceptual (textures, fruits, vegetables, and taste)

Description: Provide a pineapple and an eggplant, a summer squash and a zuchini, or a coconut and a mango. Talk about differences in texture. Let children handle, put in pan to pretend to cook, deliver carefully in a truck, etc. Afterwards let children taste samples of each (eggplant, squash, and zuchini) after cooking.

Materials: Rough and smooth vegetable or fruit--one of each texture at one time.

Comments or Cautions: Supervise and discuss. Avoid letting vegetable or fruit be thrown around. Feel, tap gently, etc. It may be necessary to have a second one for eating in case of accidental damage. The coconut should be already cut in half to avoid problems.

F-9 Picture Recipe

Uses: Perceptual-motor
Conceptual (numbers, signs and symbols, sequencing, liquid measurement, and volume)

Description: On a large sheet of heavy paper write and draw a "picture recipe" to use in carrying out a cooking project, and discuss it ahead of time. Print each ingredient first and then draw appropriate symbols to describe. For example "three cups flour," followed by rough drawings of three measuring cups, or one teaspoon baking powder, with one teaspoon shown. Symbols can also be developed for "mix," "bake," etc.

Materials: Heavy paper and magic marker or, ready-made picture recipe. (See Appendix for children's recipe books.)

Comments or Cautions: The picture recipe provides a focus for talking about what the group is going to do, a counting exercise as children count the cups on the recipe sheet and then the actual cups of flour, and an introduction to the idea that signs stand for words.

F-10 Foreign Foods
(or Foods Eaten by Various Cultures in the U.S.A.)

Uses: Social-emotional (self-concept for foreign children)
Conceptual (cultural similarities and differences)

Description: Ask a mother of one of the children or a friend to come into the classroom to cook some food which is new to the children. It is important to emphasize to the visitor that an elaborate meal or something which takes a long time to prepare will not teach the children as much as a simple dish which they can watch being made. Before the day arrives, prepare the children by a description of what is going to be cooked and who is going to cook it, and follow up with discussion afterwards.

Materials: Cooperative mother, utensils as needed, and forethought (see below).

Comments or Cautions: Especially where there may be a problem of communicating because of language differences, this project needs much careful preparation on the part of the teacher to be sure that she knows what the cook will need in the classroom, where would be the best place to set up the preparation, how long it will take, and how it will be served. There will need to be thought ahead of time as to what the children will be told about the food, and whether there are points at which they can feel ingredients, taste, or help with the project.

The amount of time spent on related experiences regarding the culture from which the food comes will depend on the age and interest of the children. At almost any age a "thank you" note drawn or dictated by the children and taken to the mailbox by them would be appropriate.

F-11 Dip and Taste Foods

Uses: Conceptual (taste)

Description: A variation on snack time could be a dip and taste activity. Use crackers, celery sticks, carrot sticks, or pieces of hot dogs cut into very small pieces (these pieces could be put on toothpicks). Let the children dip these into three or four containers holding a variety of foods (some examples: ketchup, mustard, whipped cream, mayonnaise, sour cream, cottage cheese, cream cheese, butter, salad dressings, etc.). Vary the selection from one time to the next. Encourage children to identify and describe tastes.

Materials: Bowls of dips as suggested above; pieces of hot dogs, celery or carrot sticks, crackers, etc.; and toothpicks (optional).

Comments or Cautions: Pieces should be small enough so child dips each food only once into dip. Toothpicks could become problems. Some children may not want to try everything. Have glasses of juice or water available in case some find certain tastes objectionable.

F-12 Buttering Bread and Crackers and Making Sandwiches and Toast

Uses: Small motor
Conceptual (textures, colors, safety, and taste)

Description: For snack time or to be eaten during the project, children enjoy using soft butter or margarine to spread on bread or crackers. If available, butter spreaders are often easier for them to use than regular table knives, but the latter will be needed for cutting slices for sandwiches.

If a variety of kinds of bread or crackers are used, children will have a chance to compare differences in texture (regular "mushy" white bread and French bread), color (white, graham, pumpernickel), crispness (bread and crackers) and of course, taste. (Sometimes children enjoy putting two different kinds of bread or white and graham crackers together in a sandwich.)

As a variation, bread may be toasted before buttering to let children see what happens when bread is exposed to heat, or it may be toasted in the oven after buttering to produce toast sticks or croutons. If an old-fashioned toaster with doors that let down to turn over the bread can be found at a rummage sale, children can see the process better. Toast can also be made by frying in butter in an electric skillet. Peanut butter, jams or jellies can also be used as spreads.

Materials: Assorted breads and crackers; table knives and butter spreaders; oleo, butter, or peanut butter, jams and jellies.

Comments or Cautions: *If toaster or fry pan is used be very careful that children do not touch the hot appliance. Remember the special danger of touching electric wires with any metal object.*

This is another activity which children will enjoy doing over and over, with the variations suggested above.

F-13 Snacks as Two- and Three-Dimensional Forms

Uses: Conceptual (two- and three-dimensional form)

Description: There are many opportunities for using snack time to give experience with shape and form. Some suggestions include:

Crackers or cereal. All sizes and shapes available including squares, triangles, rectangles, cones, etc.

Fruits. Grapes, cherries, blueberries (spheres, round); orange sections (sliced to show triangular patterns, or simply sectioned); apple wedges, melon balls or wedges, and strawberries.

Sandwiches. Bread and cheese can be cut into a variety of shapes.

Comments or Cautions: This activity should be one where the child is helped to appreciate the different forms of foods. Many will not have geometric shapes. If a form has a particular name such as "cone" or "sphere," the teacher should use this name but not expect the child to remember or repeat it.

F-14 Eggs

Uses: Small motor
Conceptual (various concepts)

Description: Different experiences with eggs can be given over a period of time, or one can do these all in one session. A whole morning spent on "exploring eggs" might be particularly appropriate the day after a visit to a chicken farm, and possibly, but not necessarily, in connection with Easter. Eggs could be broken open and beaten, whites and yellows separately and together. (Talk about differences in consistency, color and volume.) Eggs might be used to make plain and puffy omelets. (Talk about air making omelet rise.) Boiled eggs can be decorated for Easter, used to make deviled eggs, or eaten plain. (Talk about liquid vs. solid, use of salt and pepper.) Eggs could also be used to make eggnog or could be blown and the shells used for Easter projects. (See *A-39, Holiday Decorations*.)

Materials: Eggs, other ingredients, and appropriate cooking utensils.

Comments or Cautions: Be prepared with plenty of eggs in case of breakage. Also be prepared to deal with the question of why some eggs have baby chicks inside, and some do not.

F-15 Cutting Up Vegetables and Fruits

Uses:
Small motor
Conceptual (vegetables, fruits, three-dimensional shapes, safety, and fractions)

Description: In this activity children have an excellent opportunity to increase small motor skills by peeling, washing, or cutting up raw vegetables or fruits for snack time or just for eating on the spot.

Provide slotted scrapers, vegetable brushes, and reasonably sharp table knives. Show children how to wash carrots, celery, cucumbers, green peppers, or apples, how to peel carrots and cucumbers with the slotted knives, always cutting away from themselves, and how to cut all into bite-size pieces for eating.

In using the table knives for cutting, start children on habits of safety with knives by showing them how to cut, holding the left hand on top of the knife, over the vegetable, while holding and pressing down on the handle with the right, or vice versa if the child is left-handed. (If this sounds confusing, try it out, keeping in mind that the purpose of the hand on top is to exert extra pressure while keeping the hand out of the way of the knife.) Peeling and cutting are best done on flat trays or cooky sheets to contain the mess, and to make it easier for children to clean up afterwards. (They can carry trays to the trash can and scrape off the peelings.) This also protects table tops.

Materials: Potatoes, carrots, celery, cucumbers, green peppers, apples, bananas, or other vegetables and fruits (not all at any one time); scrapers and table knives; vegetable brushes; and trays or cooky tins.

Comments or Cautions: To adults this may seem a rather ordinary activity, but children often find it unusually satisfying, and are willing to repeat it again and again with variations in the vegetables and fruits. With older children graters could be added to make salad, but these need to be very carefully supervised to avoid grated knuckles. With some large or prickly fruits or vegetables such as pineapple, eggplant, or melon the teacher will need to cut it into manageable pieces first.

F-16 Shelling Vegetables

Uses: Small motor
Conceptual (plants)

Description: Children are given ears of dried corn and a shallow pan or tray to shell corn into. Corn may be used in doll corner, for feeding animals, for *planting*, for eating (if popcorn), for collage, or for nature sculpture.

Materials: Vegetables and containers for shelling.

Comments or Cautions: Children may need help in getting started with dried corn. As many experiences should be related as possible, for example, picking the vegetable from the garden, looking at pictures of the vegetable in different forms, tasting canned or frozen forms of the vegetable. Appropriate labeled containers for doll corner play may be introduced on the same day.

F-17 Vegetable Soup

Uses: Small motor
Conceptual (taste, vegetables, texture, hot and cold, and sequencing)

Description: Vegetable soup may be cooked in a deep fry pan in the classroom to give children a chance to watch and enjoy the entire process. It may be made with or without meat and with any variety of seasonable vegetables. Depending on the age and experience of the children they may peel and cut up the vegetables, or just cut up ones already peeled by the teacher. (Meat can be hamburger, but if it is some that must be cut up, this is a job for the teacher. Canned bouillon or cubes could also be used.) Add alphabet noodles for extra fun.

Materials: Fry pan or stove; appropriate vegetables; meat if desired; and table knives, vegetable brushes, peelers.

Comments or Cautions: If for snack, the amount cooked would be less than for lunch. It might be accompanied with a choice of crackers or oyster crackers for floating in the soup. As a special project children might help cook a big pot of soup and ask mothers to come for lunch.

F-18 Acorn Squash

Uses: Conceptual (texture, color, temperature, time, and taste)

Description: Two acorn squash should be enough because one can cut each serving quite small. We cut each half into about six pieces so that each serving was small and there was enough left over for those who really liked it.

Cut the squash in half and see what grows on the inside--look, smell, and clean it out. Let the children drop some butter (about a teaspoon in each half) and about a tablespoon of brown sugar in each half. Wrap them up in tin foil and bake at 350° for one hour.

This is an experiment in good eating, and the children can do everything but the cutting all by themselves. Be sure to point out how baking changes color and texture.

Materials: Acorn squash, butter, brown sugar (maple syrup can be substituted for butter and brown sugar), oven, and tin foil.

Comments or Cautions: Save the seeds and plant them.

F-19 Fruit Salad

Uses:	Small motor Conceptual (fruits, three-dimensional forms, texture, fractions, and taste)
Description:	Gather assorted fresh fruits in season such as bananas, apples, grapes, cherries, oranges. It is very interesting to notice the different textures of the skins, different colors, variety of seeds, and the taste while cutting them up. The children can cut up the softer fruits with table knives. Save the seeds, dry them for two days, and then plant them. Experiment to see which ones grow. This makes a delicious snack, especially in the summer. Watch for unusual fruits in the winter, too.
Materials:	Table knives, bowl, and paper towel for drying seeds.
Comments or Cautions:	Sometimes it is interesting just to bring in one unusual fruit such as a mango, papaya, ugly fruit or avocado and see what the reaction is to a *new* food for *this* part of the country. Older children can be shown on a globe where the fruit came from.

F-20 Applesauce

Uses:	Small motor Conceptual (fractions, taste, texture, and temperature)
Description:	Children can core apples with table knives. They can cut apples up in quarters and place in pot with a little water. Fill with apples up to top. Cook until mushy. Children can test with knives. Add cinnamon candies after blending soft apples in food mill. Children can wash out pot, spoons, etc.
Materials:	A dozen apples (Depending on size of group a dozen apples will feed about 12 children and one teacher for a snack.) Red cinnamon candies; pot and spoons, bowl, table knives; and stove or hot plate.

Comments or Cautions: *If stove is in the room a teacher should be within immediate reach at all times. Watch out for spattering as applesauce cooks.*

Talk about fractions and change in taste as sugar is added.

F-21 Citrus Fruit Juice

Uses: Small motor
Conceptual (fruits, color, taste, volume, and liquid measurement)

Description: For many modern children, juices have no more relation to fruits than milk has to a cow. A chance to cut oranges, grapefruit, lemons, or limes, to squeeze out the juice and to drink the juice, lemonade, or limeade made from the juice can be a real concept learning experience, as well as a good small motor and social-emotional activity. It will require a good deal of adult supervision and occasional help, but children can cut oranges with tables knives if they are reasonably sharp and can use a juicer if it is solidly set on a low, stable bowl. The amount of juice produced will probably not be enough to fill the glasses at juice time; but it can be supplemented by juice squeezed by the teacher, or just drunk immediately after it has been squeezed and admired.

The differences in size, color, and taste among various citrus fruits provide a good topic for informal discussion.

Materials: Citrus fruits, sharp kable knives, and hand juicers.

Comments or Cautions: This is a messy activity and children, tables, and floors need to be protected.

Children may want to save seeds and plant them in pots for a small citrus garden. If so, warn them that these seeds grow *very, very* slowly.

F-22 Cracking Nuts

Uses:
Large motor
Small motor
Social-emotional (problem solving)
Conceptual (plants and three-dimensional form)

Description: Provide nuts such as pecans, filberts, hickory, butternuts, or English walnuts and a hammer, preferably in outdoor setting. Crack on sidewalk or chunk of wood.

Nuts may be eaten as cracked or saved to decorate cupcakes or cookies for party.

Materials: Edible nuts, hammer, broom, and dustpan to sweep up shells.

Comments or Cautions: *Do not use with threes; there is too much danger of choking on pieces of shell or even the nuts themselves. This activity should be very carefully supervised; one teacher to watch the child who is hammering and another to supervise shelling and eating. Children may need help in using hammer carefully, and also help in getting pieces of nut from the shell to eat. Be very careful that children do not put pieces of shell into mouth and do not let them run around with nuts in their mouths. Children need to keep away from the child doing hammering.*

Activity may be linked with discussions of where nuts come from and how else they are used.

F-23 Peanut Butter

Uses:
Small motor
Conceptual (plants)

Description: Give each child a limited number of peanuts (five or six) to shell, providing a dish or basket for the peanuts and one for the shells. Allow plenty of time for this part of the operation and give help as needed. Peanuts can then be put into a blender and blended until mushy, then oil added to the proper consistency and salt to taste. Children can choose to spread peanut butter on lettuce, apples, or celery, as well as crackers.

Materials: Peanuts in the shell; blender and spatula; lettuce, apples, celery, or crackers.

Comments or Cautions: Peanut butter can also be made with an old-fashioned hand meat grinder, if one of the accessories is a flat plate without teeth, known as a "nut-butter grinder." Using even a plate with very fine teeth does not result in a satisfactory product.

F-24 Butter

Uses: Large motor
Social-emotional (taking turns)
Conceptual (sequencing)

Description: Have heavy cream and jar with close-fitting lid chilled before beginning. Shake heavy cream in jar with clip-type clothespin also in jar (helps coagulate faster). Let each child take turns by shaking five times. Butter will form a ball. Pour off milk, let children taste, add salt and let them taste again. Then spread on crackers. (Sometimes butter takes a long time to come, and the teacher may want to complete the process by beating with an electric beater.)

Materials: Two plastic jars small enough for little hands to hold, heavy cream, and two clip-type clothespins.

Comments or Cautions: Be sure to have two jars in case one should drop while it is being passed from child to child.

Relate to visit to farm or grocery store. As appropriate, raise questions such as how butter is made commercially or the differences between butter and margarine.

F-25 Pizza

Uses: Small motor
Conceptual (taste, time, safety, sequencing, and temperature)

Description: Use packaged unbaked crescent rolls. Let each child take one roll, spread it flat on a piece of foil and spoon on pizza sauce. (Hot dog pieces, browned ground meat, or mushrooms may be added.) Sprinkle on cheese, bake at 375° or 400° until brown.

Materials: Crescent rolls (one section per child), tomato or pizza sauce, pizza sauce spice, and mozzarella cheese, shredded or sliced.

Comments or Cautions: *Be sure that pizza has cooled sufficiently before serving.*

F-26 Cake Making

Uses: Conceptual (counting, measuring, taste, temperature, and sequencing)

Description: Make a cake using a mix or any simple recipe. Have children help with measuring, pouring, and stirring. Allow opportunities for smelling, tasting, feeling. If an oven is not available, an electric fry pan may be used. Use several layers of aluminum foil on bottom of pan.

May count to five or ten as each child stirs and passes to next child, or "This is the way Tommy stirs the cake, stirs the cake," etc.

Materials: Ingredients for cake or cake mix, bowl, mixing spoons, measuring cups, spoons, and sponges.

Comments or Cautions: Canned frosting may be used if the mixing of the cake seems to be enough activity. Children can help wash dishes. Ask, "How does fruit juice taste with cake?" (sweet-sour)

F-27 Pancakes

Uses: Conceptual (counting, measuring, temperature, and sequencing)

Description: Recipe--good amount for 18 children. (Use a picture recipe.)

2 cups sifted flour
2 tsp. baking powder
1 tsp. salt

1/4 cup sugar
1 egg
1 cup milk
1/4 cup melted butter or margarine

Measure flour into sifter, add dry ingredients.
Beat egg, add milk, blend.
Sift dry ingredients, add butter, beat until mixed.
(Or follow directions on mix box.)
Use ladle or small pitcher for child to pour batter onto fry pan; he may need help in controlling amount and in turning.

Materials: Measuring cups, spoons, mixing spoons, bowl, rubber scraper, egg beater, ladle, pan, spatula, syrup in *small* pitcher, plates, and forks or spoons.

Comments or Cautions: Some teachers have added M & M candies to batter and then served them like cookies without syrup.

Measuring is flexible for this activity. Older children may use own judgment in adding flour or milk to make batter thicker or thinner and for how long to beat.

F-28 Frosting Cookies or Crackers

Uses: Small motor
Conceptual (texture and taste)

Description: Use canned frosting or confectioner's sugar frosting (about one half the recipe on box). Put a small amount of icing in a paper baking cup or on a square of wax paper for each child, and provide a tongue depressor or popsicle stick for each child to spread frosting on a cooky or graham cracker. One might give each child some without color and let him choose a color and mix it himself.

If colored decorations are used, they may be put in flat dish and frosted cooky dipped into them.

Materials: Canned frosting, or confectioner's sugar, milk, margarine; bowl, spoon; and graham crackers or firm cookies such as vanilla wafers (not crumbly).

Comments or Cautions: This is especially suitable to help a child celebrate his brithday.

F-29 Rice Krispy Squares

Uses: Conceptual (counting, measuring, temperature, taste, and texture)

Description: 1/4 cup butter or margarine
6-10 oz. regular marshmallows (about 40) or 4 cups miniature marshmallows
5 cups Rice Krispies

Melt butter in 3 qt. saucepan.
Add marshmallows, cook over low heat, stirring constantly until mixture is melted and syrupy.
Remove from heat.
Add Rice Krispies and stir until well coated.
Press into buttered 13" x 9" pan.
Cut in squares when cool.

Children may count marshmallows, each putting in five or two at a time, and can watch as marshmallows melt.

Materials: Saucepan, pan, spoon, measuring cups, and ingredients.

Comments or Cautions: If mixture is poured onto wax paper, the paper will melt and stick to cookies.

Child who is allergic to wheat can eat these.

F-30 Instant Pudding

Uses: Large motor
Social-emotional (taking turns)
Conceptual (liquid-solid, and sequencing)

Description: Buy commercial instant pudding, add milk, place in wide-mouthed, *tightly closed* container and let children take turns shaking. Using a large spoon let each child dish out his own pudding into a paper cup.

Materials: Instant pudding, shaker, paper cups, and spoons.

Comments or Cautions: This is the simplest kind of food project for the beginning of the year or a classroom without cooking facilities. However, it can be expanded by doing different flavors at the same time and letting children compare tastes, by making instant and cooked pudding at the same time, comparing tastes and talking about the reasons for convenience foods, or by adding toppings such as chopped nuts, coconut, or grated chocolate. *Be sure to have plenty of pudding so that no one is left out.*

F-31 Jello

Uses: Conceptual (color, texture, and temperature)

Description: Make Jello following directions on the package (use regular rather than instant). Children watch as water *boils* in Pyrex pan. Add Jello and let children stir in ice cubes, watching as they *melt*. Pour into individual paper cups to set. Repeat on another day using another color. If paper cups are used, each child's name can be written on one.

Materials: Pyrex pan, bowl, measuring cups, pitcher for pouring water, mixing spoon, ice cubes, and Jello.

Comments or Cautions: *Be sure children stand well away from the pan of boiling water.*

F-32 Ice Cream

Uses: Large motor
Conceptual (taste, freezing, and melting)

Description: Use an electric or hand-cranked ice cream freezer and let children help with the whole process of making the mix, putting in ice and salt, turning or listening for the motor to begin to labor, taking out and cleaning the dasher, and packing in salt and ice to finish freezing. Talk about the process of freezing; if children are mature enough, try to explain how the salt helps the process.

Materials: Ice cream freezer, ice cream ingredients (use any recipe intended for a freezer).

Comments or Cautions: If freezer is hand-cranked, lots of adult help is needed. In planning, remember that ice cream must be packed away for some time before eaten. This is a good project for teachers and children in preparation for a picnic with families or a visit from mothers.

F-33 Ice Cubes or Fruit Juice Popsicles

Uses: Conceptual (temperature, solid-liquid, and color)

Description: Individual or small groups of children may make ice cubes from plain water, or water with food coloring added, or juice. The children may want to check often to see if the ice cubes are yet frozen. A thermometer in the freezing unit and one outside the refrigerator will help older children with concepts of temperature. A child can pour liquid into ice tray. The frozen cubes may be used as a treat at juice time, or a child may give them to others in the doll corner.

Materials: Liquid suitable for freezing and eating; refrigerator (or perhaps outdoors in winter); cup or small pitcher, easy to pour from; sponge; and thermometer.

Comments or Cautions: This may be suitable as a substitute if children are eating ice outdoors.

Chapter 19
Music Activities

Introduction

The place of music in the preschool curriculum depends on whether one sees the teaching of music as primarily an end in itself or primarily a means to other goals--including the very basic goal of enjoying one's life a little more. Music can be used to increase a child's positive feelings about himself, by singing about him or by giving him a sense of accomplishment in being able to make music or move to music himself in a satisfying way. In helping with language development many teachers have found some nonverbal children who begin to respond only when they are sung to or encouraged to sing. Moving to music in a group and singing or playing instruments with others can be one means of establishing a feeling of identity with the group or of cooperation with another child. And of course, moving to music increases the smoothness and coordination of large motor movements in a very effective way.

Thus it is important that music should enter into the curriculum for every child--in as broad a variety of ways as possible. However, precisely because it is one of those areas where society or the grade school usually has no expectations as to achievement, it is possible for the teacher to use music for whatever goals she thinks most important and particularly for the enjoyment of herself and the children. On the other hand, if a teacher is particularly talented in the field of music, she will undoubtedly be able to go far beyond the suggestions given here.

Equipment for music activities will vary with the budget. However, a sturdy, simple phonograph and a basic supply of rhythm and song records are of high priority. If the phonograph is almost child-proof, or better yet, if the children can have their own phonograph, there should also be a supply of records which the children can play themselves. (See the Appendix for a suggested list of records.)

If any of the teachers are able to play an instrument such as an autoharp or guitar but do not own one themselves, buying one for the school may be a good investment. Whether or not to purchase a piano depends on the talents of the teachers, the budget, space in the school, and the availability of a good second-hand instrument.

Rhythm band instruments need not be expensive. There should be enough rhythm sticks (purchased or homemade from dowel rods) for each child to have two, and a variety of other instruments such as drums, triangles, cymbals, etc. (See *TTT-41, Rhythm and Musical Instruments*.)

M-1 Listening to Music

Uses: Conceptual (auditory discrimination, enjoyment)

Description: Learning to enjoy listening to music requires that the child be exposed to a variety of kinds of "music for listening" under circumstances when he is free to pay attention. The senior author feels strongly that having a record player going continually in the room tends to teach children to tune out rather than to tune in, as does the playing of scratched records or music which the children do not particularly enjoy.

At times when children are resting or getting ready to go to sleep or perhaps are involved in quiet table games, the teacher can put on a record and make some comment to the children to identify it for them, so that they can ask for it again if they like it.

Singing records or story and singing records can be used with small groups at story time or perhaps for a break in pace outside. (Thus if playing records at a time when it is expected that the children will listen and when they are not involved in any other activity, use a record which tells a story or has a strong melody and interesting words. Examples would be The Young Peoples' records or folk songs. At times when children are free to listen or not as they like, a much wider variety can be used, depending on what they and the teacher enjoy.)

At least some of the music which children have a chance to listen to should be live, if at all possible. The times when every nursery school or kindergarten teacher could play the piano and had one in her room are gone, but a new generation of teachers is learning to use the guitar or the easily played autoharp to give children a firsthand experience with instrumental music. (These have the advantage over the piano, incidentally, that it is much easier to play and keep contact with the children at the same time.)

Of course there is always the possibility of simply singing to children for their enjoyment. Often the teacher can start out singing simple folk songs which she can later teach to the children, but they may also enjoy hearing the teacher sing songs which are too difficult or out of range for children's voices. The teacher who feels that she can manage neither the autoharp nor singing (though everyone should perhaps try) may bring in people from the outside to give the children such experiences. An African drum group was tremendously rewarding for the children in one group. The oldest children may become interested in learning about various kinds of instruments in the process as well as in learning to listen to music.

M-2 Moving to Music

Uses:
Large motor
Small motor
Social-emotional (interaction with other children, creativity, and tension release)
Conceptual (various concepts)

Description: With some individuals and occasional groups of children moving to music just "comes naturally." Early in the year the teacher may occasionally want to provide music and an open space during free play time with the suggestion that children may move or dance if they like. If she finds that she is lucky enough to be working with children who already enjoy responding to music, she can start where they are and follow their leads introducing a variety of kinds of music or props such as scarves, hoops, or balls.

However, many children, given a chance to move freely, either seem to be paralyzed and do not move at all or use the opportunity to run completely wild, ignoring the music entirely. For these children some more structured movements to begin with, such as acting out a story record, then moving to music which suggests a given interpretation, and then going on to freer expression may be the best sequence.

For almost any group certain limits such as not bumping into each other, not going beyond a certain area, and stopping with the end of the music or at a given signal will always be necessary. We want to be sure, however, that children are helped to move toward free use of their bodies *and* their imaginations as rapidly as possible. Both story records and "moving to music" records are listed in the Appendix. Most teachers will want to go beyond these to selections of folk or classical records for further free movement. In addition, they may want to try movement to songs sung by the teacher and children or to rhythms beat out on a drum, a tambourine, or other percussion instrument.

M-3 Singing

Uses:
Language
Social-emotional (expression of emotions)
Conceptual (various concepts and auditory discrimination)

Description: At this early age we are *far more interested* in having children learn that singing is a possible and enjoyable way of expressing themselves than in having them learn a large repertoire of songs or to sing on key. Perhaps the easiest way for them to learn this is to have adults in the room who can sing spontaneously when something strikes them as "singable"--a phrase about a child's new pair of shoes or about the bluejay who just landed on the window sill. If a teacher is not comfortable with such spontaneous singing, she may still be able to serve as a model for just singing for fun by singing to a small group, accompanying herself with an autoharp (the easiest of all instruments) or along with a folk record. (If a child begins to sing on his own, the teacher may need to be very careful in giving approval without making him self-conscious.)

Many teachers find that the easiest way to teach children to sing is just to choose very simple songs with considerable repetition (e.g., chosen from the songbooks listed in the Appendix) and to encourage the children to alternately listen and sing with her or with a record. Others prefer to use a more structured approach such as is found on the Robert B. Smith, *Let's Learn to Sing* records. Whatever approach is used, "drill" should be avoided and singing time continued only as long as motivation is high. (Be sure to pitch songs at a comfortable level--Middle C up to A. Many songs for young children are pitched too high.)

M-4 Musical Instruments

Uses: Social-emotional (tension reduction)
Conceptual (musical instruments and auditory discrimination)

Description: As with singing, when we give children a chance to make music with instruments, we are mostly concerned that they learn that there are many ways of making music which are possible to them--that playing instruments is not limited to two-dimensional adults on the TV screen.

Unfortunately, the way in which rhythm band instruments have been used in many schools has led some teachers to give up on instrumental music altogether. If sticks, bells, triangles, and cymbals are simply passed out all at once for children to use in "keeping time" to the music, what usually results is a competition to see who can make the most noise. If instead the teacher starts out herself by illustrating listening to music and hitting together one pair of sticks and then gives one child the job of accompanying with sticks--gradually adding more sticks or other instruments as appropriate--the results are more likely to be music than noise.

For many instruments such as the triangle or cymbals the directions may involve listening for the time when the music being played "needs" the triangle. Children may also take turns serving as the "rhythm master" for moving to music, helping to set the beat with drum or temple block. And few of us would deny children the chance to use all the rhythm instruments in a gloriously noisy march around the schoolyard occasionally when they have all learned to use them individually.

Excellent rhythm band instruments can be purchased from school and music supply houses, but in addition the teacher should not overlook the personal involvement which comes when a child plays an instrument which he has made himself or which he has helped an adult to make. (See *TTT-41, Rhythm and Musical Instruments*.)

M-5 Finding a Note for Singing a Song

Uses: Social-emotional (responsibility)
Conceptual (auditory discrimination)

Description: If one establishes the habit of using a piano or pitch pipe to find a suitable note for starting a song, the children get in the habit of listening for it and starting on the same note together. It is good to repeat it on following verses. For example, play Middle C--"Can you find this with your voice?" If one sings a bit of a familiar song and it is too high or low for the children or teacher, try another note.

After some experience the children may take turns being the teacher or song leader and lead a song that the child chooses after finding a suitable note in the middle of the piano (usually from Middle C to A, or below Middle C).

M-6 Dancing in Wet, Bare Feet

Uses: Large motor
Social-emotional (tension release)

Description: For an indoor activity, block off an area of the room and tape brown wrapping paper to the floor. Have a low pan of water at the entrance for children to dip their bare feet into. Outside the area have a name card taped to the floor for each child to put his shoes and socks on.

After dipping their feet in the water, children dance all over the brown paper leaving interesting footprints behind. Play a variety of fast and slow music on the record player to add another dimension to the "dance."

Materials: Warm day, brown paper, tape, shallow basin of water, and paper towels.

Comments or Cautions: Firmness with the rules of the game are necessary! Two things are stressed: shoes and socks left on their name tags before getting feet wet, and feet dried and shoes on when finished.

The bare, wet feet seem to free so many of the tenser children that it is a joy to watch. This activity could be done outside on warm days on the cement (for seeing footprints) or on the grass for just feeling grass on bare feet.

M-7 Child-Chosen Activity

Uses: Language
Social-emotional (taking responsibility)

Description: Using an activity song which children know well, give children a chance to choose activities or make up their own. Use such old stand-bys as "This Is the Way We Wash our Clothes" or "Did You Ever See a Lassie" or less familiar ones such as, "Hey Jim Along" or "Clap Your Hands" from Ruth Seeger's book. (See Appendix.)

Comments or Cautions: Give children a chance to be imaginative and to think up new ideas, but be ready to support the child at a loss by giving a hint.

M-8 Singing About a Child

Uses: Social-emotional (teacher-child interaction and self-concept)

Description: Singing about a new dress or new shoes is a traditional nursery school activity but it may not be appropriate if the group is such that new things come often to some children and never to others. Rather the teacher should try to sing to a child about something which is important to *him,* climbing to the top of the junglegym, having a haircut, coming to school with his father. She can improvise a melody for the occasion or use a familiar one such as "Mary Had a Little Lamb" or "Have You Seen the Muffin Man?"

M-9 Music Box

Uses: Conceptual (auditory discrimination)

Description: Bring in the mechanism out of a music box and let the children listen as you place it on various objects such as a tin can, cigar box, table top, book, or folded towel. Try to get children to describe in their own ways the differences in sound before asking them to decide which surfaces make the sound louder or softer.

For the most mature children this experience may lead to a discussion of what sound is, how a sounding board works, and a follow-through into looking at various instruments to see what their sounding boards are like, or making a simple cigar box and rubber band instrument.

Materials: Music box mechanism (from an old box, or it can be purchased through some craft shops), tin can, cigar box, book, and towel.

Comments or Cautions: The mechanism is somewhat fragile.

M-10 Imaginary Music Box

Uses: Social-emotional (adult-child interaction and initiation of contact with children)

Description: The teacher may want to use this activity to distract an unhappy child or to draw a shy child into participation. She simply pretends she has a music box in her hand and pretends to open it, sings a song, and stops as the child closes the box. The child chosen can share this experience with the other children by opening and shutting the box and telling the others what it is. Children will also be encouraged to make their own music boxes and sing songs of their own choosing.

Comments or Cautions: Do not use too often.

Chapter 20
Miscellaneous Activities

Introduction. In this chapter we have included techniques for teaching which do not fit into any of the other categories. These include use of the bulletin board and exploring table, still and movie photography, field trips, visitors, and two suggestions for helping with routines.

Misc-1 Bulletin Board

Uses:
- Small motor
- Social-emotional (responsibility and self-concept)
- Language
- Conceptual (various concepts)

Description: *Large, low* bulletin boards or sections of wall covered with cork or burlap for display purposes can be used for many purposes related to the curriculum.

The teacher can build up interest in a concept which she intends to introduce or a new book by displaying appropriate pictures or the book cover on the board for a day or two before. Leaving them up for a few days and adding to the exhibit other pertinent pictures, flannelboard figures related to the story, will keep the children interested. Some kinds of three-dimensional materials such as leaves, pressed flowers, rocks taped to cardboard, could also be displayed on the bulletin board. Printed labels could be added as appropriate.

There may be a separate bulletin board for children or certain times when the teacher suggests that they decide what is to be put up. Often children will bring things from home such as post cards they have received which they may want to exhibit. Places for artwork should be separate from the bulletin board since the teacher will want to have many examples of the children's work in the room at all times. Encourage children to talk about pictures they have chosen or brought from home for the board.

Materials: In many rooms bulletin boards are too small and too high. Best is a whole wall of a corkboard or similar surface, but larger areas can be improvised by hanging pieces of wallboard covered with burlap.

Comments or Cautions: Check to be sure that wallboard used is fire resistant.

To be worth the effort bulletin boards should contain materials genuinely interesting to the children and should be changed as frequently as necessary to maintain interest. Try to avoid the Halloween-Thanksgiving-Christmas-Valentines-Easter sequence which characterizes so many bulletin boards; children see pictures on these themes wherever they go.

Misc-2 Exploring Table

Uses: Social-emotional (curiosity)
Conceptual (various concepts)

Description: A table or shelf in an out-of-the-way corner can be used to display things which the children can explore by shaking, smelling, and comparing. The exhibit can be changed regularly and related to the current concept area. For example, for color the teacher might bring in beautifully colored objects in a variety of hues or many different things all colored green. To teach fractions the table might include whole items and half or quarters of the same items such as a pair of scissors and one half of a broken pair, a walnut and half a walnut, a pair of shoes and one shoe, a coconut and a quarter of a coconut. For informational areas such as plants one might bring a variety of visiting plants. Children could be encouraged to bring objects for the table, whether or not they fit in with the concept being stressed. Labeling may also be appropriate at the exploring table.

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not to be useful
[illegible]

available for viewing in the nursery school is limited, and the quality of the films available is poor. Unfortunately, the preschool age is probably the age on which visual communication could have the most effect.

Where do we get films for the nursery school and kindergarten? Films can either be obtained from professional sources, libraries, film rental companies, or educational material companies; or films can be made to fit the occasion and the classroom budget. Professional films are available in most states through the state library system. Some city libraries also have films available either free or at a slight cost. Films can also be rented from university film libraries or from commercial film rental companies. Since most of the films available from these sources are 16mm sound films, a 16mm sound projector is necessary. These usually can be rented from camera stores or borrowed from local schools. The only other piece of equipment necessary is a screen, which usually can be rented or borrowed along with the projector. In most cases the professional films are animated versions of familiar stories. This limits somewhat the teaching value of the film. The children are delighted with their stories coming to life in front of them, but there is little more than entertainment value in these films.

The fact that professional films are limited in topic is one reason that homemade films are important. The other reason is that they are a permanent addition to the materials in the classroom, at a very limited cost. The cost of making films varies, of course, with the quality of the films. If you have a lot of money and some talent in photography, you may want to make 16mm films. The initial outlay for equipment will be many times that of 8mm or Super 8mm, but you will have professional quality films.

16mm films are not necessary for the nursery school, however. The children seem to be just as delighted with homemade films as they are with the professional 16mm sound films. The cost of making an 8mm or Super 8mm film, and equipping the nursery school, is not great. Three to six minutes seems to be the ideal length for films for this age group, and they are not hard for the teacher to make.

Making a film for a preschooler that he will enjoy and that will teach him something is not as hard a project as it seems. Cameras today are designed with ease and accuracy in mind. One need only snap in a cartridge of film and press a button to film. How does one go about making a film? There are seven steps:

1. *Define* the concept or topic of the film.
2. Write a *script* that includes the sequence of shots that you will use, and the words, if any.
3. *Film,* following the script.
4. After processing the film, view it and *edit.*
5. Tape the *sound.*
6. *Show* the film to the children.
7. *Question* the children to determine the effectiveness.

The first step is probably the most difficult. The topic or the concept of the film should be explicit, and limited enough so that you can make it into a four-minute movie. The topic can be one that is difficult to communicate in other ways, or it can be a familiar concept that needs repetition. There are four different types of films that can be made by the nursery school teacher. The first is a *concept film*--a film that can communicate numbers, size, colors, etc. The second type is a film of the *children playing* or working at any activity. This type of film can be used to give the child an awareness of himself, his peers, and his surroundings. A third type of film is one that can help explain a new piece of equipment or material to the children.

For example, children who see the designs that a pendulum can make before they play with it will learn more. This should apply to any piece of equipment that is not self-explanatory. The last type of film is one that can act as a *start for a discussion*. This category would include films of trips or films of things that children cannot ordinarily see themselves.

Once a topic has been chosen and the type of film to be made decided on, the next step is to write the script. The script helps to organize the film and also helps to reduce the editing of the film to a minimum. The script should include the sequence of shots, the words that go with the film and the approximate time that each shot will take. A good script should not only help organize the film and reduce editing, but will also make the actual filming of the movie much shorter. An example of a script will be found at the end of this section.

When the script is done, the next step is to do the actual photography. If there are any props to be used in the film, they should be assembled beforehand. If the film is to be animated or done indoors, then a background should be made, and lights should be set up. Then one can start the actual filming, following the script and making any necessary changes as the filming progresses. It should be mentioned that the filming of children usually cannot follow a script. It is also hard to use movie lights when you are filming children (the lights hurt their eyes). For this reason, it is best to film children when they are outdoors or in a very brightly lit room. It is also helpful to have another person assisting in the filming. It makes everything go faster! After the film has returned from the processor, the next step is to view the film. There may be sequences that had to be repeated or that did not come out well. These can be "cut" out very simply. All one needs is a razor blade and some splicing tape. The film is now ready for the sound, if any.

There are several alternatives to consider for the sound. The first is to narrate the film yourself. This is probably the easiest and the most flexible, for it allows you to adapt to the children. A script can be used, or you can just comment as the film goes along. A second alternative is to tape a sound track. First, you watch the movie and write a script that fits the sequencing of the film. Then you start the projector and the tape recorder and record the sound. (Sometimes it is hard to synchronize the film and the sound, however.) If the film is one that does not need any explanation, a nice background could be music--a waltz or children's songs. The last alternative is to have the children narrate the film as they watch it. If the film is one of the children or of an activity that they are familiar with, they will probably tell the story themselves. A film on bread making, for instance, could be narrated in this way. The teacher could help the children remember the ingredients and the steps, etc. The sound for the film is probably the most flexible of all the things that have to be done. The children will learn from and enjoy the visual part of the film the most. The audio part is just for added enjoyment and knowledge.

The next step is to show the film to the children, and then talk to them afterward to find out if the film was effective in communicating to the children. This is important, for you may make a film that is disappointing to you but the children will really enjoy it.

Films should be an essential part of the preschool program. They are, and can be an effective medium for communicating to preschool children. Films can be rented and borrowed from libraries and rental companies at low costs. But, even better, films can be made by the nursery school teacher to fit the needs of her class. They can be made easily, inexpensively, and quickly.

Sample Script: Mass Production

(to be filmed in the nursery school and bakery)

Object: To point out to the preschoolers that many things are made in quantity that can also be made in small amounts. Because the children have had experience making bread, and because it is a commodity that all of them are familiar with, bread making was chosen as an example.

Pictures	Dialogue
1. Many loaves of bread, pies, cans of food, racks of clothes and shelves of toys and books.	How are things made? Who makes the food you eat, the clothes you buy, and the toys and books you play with?
2. Picture of mother cooking. Pictures of bread, pie, etc.	Where do the things you eat come from? Does your mother bake all the bread, cake, and cookies you eat? Who makes the food that you eat in snack? Some people make their own bread, but it takes a long time. Many people buy their bread in a bakery or a supermarket.
3. Pictures of children making bread in nursery school.	Sometimes in nursery school we bake bread.
4. Poster of recipe for bread. Shots of the various ingredients (in small containers so as to show the difference between the size in bakeries and home use.)	We use flour, yeast, etc.....
5. Show the children going through the various steps of making the bread.	Describe the steps as they are shown.
6. Show the children putting bread into oven.	Then we put the bread into the oven. We can smell it, it smells so good.

7. Picture of outside of bakery.	Sometimes when we are walking by bakeries we can smell that same good smell. The bakeries are baking bread so that we can buy it and take it home to eat. Bakeries are special places that make lots of bread for us to eat.
8. Picture of bakers at work.	The men who work in bakeries are called bakers. They make bread like we do in nursery school except that they make a lot more. They use a lot more flour, yeast, etc.
9. Pictures of the large amounts of ingredients.	
10. Follow the baker through the steps.	Describe the steps. They use big bags of flour, lots of yeast, many bottles of milk ....
11. Compare the nursery school loaf coming out of the oven with the bakery loaves all coming out of the oven.	Repeat how one individual can make bread, but big bakeries make a lot of bread for everyone.

Misc-5 Field Trips

Discussion of Field Trips[2]

Young children, whether they live in affluent or depressed sections of society have frequently not had experiences with the exciting world outside their own neighborhoods. The child who picks apples growing from a tree, hears the bell on a fire engine, observes his own size against that of a cow, walks in a field of pumpkins and picks out one for himself, is richer and wiser for having done so.

Field trips which give children firsthand experiences with the world beyond their immediate neighborhoods are an enriching part of the day care program. They open up new areas for learning and self-expression through the stories, music, dramatic play, art, and conversation that *develop* from the widened scope of the child's real *world*.

Benefits derived would include general concept development, stimulated curiosity, vocabulary enrichment, time and space relationships, seasonal changes, accumulation of facts, developing self-confidence, and trust in oneself and others.

Well formulated plans and sufficient adults are a must for carrying out successful field trips.

A. Limits for Children

1. Stay with the assigned teacher and group.
2. Follow safety rules in car--sitting down, seat belts on, windows part way up, etc.
3. "Look" instead of "touch" when so directed.
4. Observe caution around farm animals or machines.

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[2] Reproduced from *Handbook for a Preschool Program* by Hayman, Hannah and Barduhn, Mary, United Community Chest and Council of Onondaga County, Inc., N. Y., 1965.

B. Guides for Teachers

1. First trips should be short. Children who live in a circumscribed world may be frightened by leaving the familiar day care center. Walking to a nearby place may be the best first trip.
2. Children should be told a short time before leaving where they are going, with whom, what they will see and do, and specifically when they will return ("by lunchtime," or "before mommy comes for you," etc.).
3. Enroute children should review what they are going to do or see and when they will return.
4. Children should be toileted just before leaving. The teacher should have a supply of tissues, first-aid kit, drinking water and cups.
5. Children should be assigned to specific teachers for the trip and they should know to which group they belong. (One group wears green tags while another wears yellow ones.)
6. At least two adults should be in every car. Maximum of six children in a two-door sedan, eight in a station wagon (four-door sedans are hazards).
7. Accompanying a trip with a snack or a picnic lunch increases the pleasure for the children, once they are comfortable about being away from the center for longer periods.
8. Whenever possible plan for a period of freedom for the children from the various safety regulations stated above, e.g., running in a meadow or park, away from road.
9. Places which hold interest for young children:

   The Urban Community

   library
   grocery store
   fire department
   pet shop or tropical fish store
   department store (especially the elevator and escalator)
   a railroad train
   bakery
   bus trip

zoo
airport
boat show
flower show
neighborhood school
park
small factory
a recycling trip
visits to parents at work

The Rural Community

diversified farm
dairy farm
egg hatchery or chicken farm
pumpkin farm
apple orchard
woods, meadow
lake, ponds, streams
waterfalls

Rules on Walking Trips

The rules for walking trips away from the school will vary depending on the maturity of the children. The rules should be very strict and vigorously enforced at first and can then be relaxed when children prove that they can be trusted. (The following suggested rules assume traffic dangers. Walking in the woods or the park, one would usually only expect that the children would return to the teacher immediately on being called.)

At the beginning there should never be less than three adults with a group, one teacher at the front, one at the back and one to serve as "chaser" or to take a child back to school when necessary. This may seem unrealistic, but it is *essential* before the children have learned the rules about walks. In about every group there are children who will run ahead or dart into the street. The only effective way to teach that this is not allowed is to take the child back to the school immediately. (Of course the rules and the reasons for them will have been carefully explained.) This leaves two teachers to continue the walk. Even with a very mature group, never go with only one teacher because of the problems of coping with a skinned knee or a child who has to go to the bathroom.

Once children realize that the teachers mean what they say, they may be allowed to run ahead in safe areas as long as they stop immediately on a signal. A whistle may seem a little too much like the Army, but a loud bell may be more easily heard than calling "Stop." However, in areas where there are numerous dangers such as alleys and frequently used driveways, or on trips to crowded areas such as downtown, one will still want to keep the children together. Many teachers have found that letting the children hold onto knots in a length of rope is much easier than holding hands. It gets around the problems of who walks with whom and the child who does not like his hand held. Properly introduced, the children consider it great fun.

Examples of Field Trips

The descriptions below are just intended to give some examples of the planning which should go into setting up a field trip and the very wide range of possibilities from short walks to all-morning bus trips. The teacher can undoubtedly think of countless others depending on the location of her school, her budget, and the ages and interests of her children.

Misc-5A Color Walk

Uses:	Large motor Conceptual (color)
Description:	Make for each child a color fan (strips of various colors, cut in graduated sizes so that all are visible at one time, and stapled at one end). Take a color walk on which each child tries to find some things that match the colors in his fan. The teacher should be aware of likely objects to be

found and choose fan colors accordingly. For a nature walk there could be various hues and shades of greens and browns, with brighter colors if flowers will be found on the way. For a downtown walk colors to match brick walls, sidewalks, painted buildings, etc. might be included.

Materials: Strips of colored paper cut in graduated sizes and a stapler.

Comments or Cautions: This works better with a small group than a whole class.

Misc-5B Maps for a Treasure or Nature Hunt

Uses: Large motor
Conceptual (geography and symbols)

Description: Make a very simple map of the park, the path along which a walk will be taken, or the playground showing trees, paths, swings, sandpile, or any other obvious physical landmarks. Place an X on the map where something is to be found, either a treasure which the teacher has hidden there or some natural item of interest such as a bird's nest. See if the children can find it by following the map. (If this is the first introduction to maps, draw or cut out pictures of the objects on the map. Later they can be represented by symbols.)

Materials: Map drawn on large piece of sturdy cardboard or dittoed so each child can have one, and a treasure such as a bag of cookies.

Comments or Cautions: This works better with a small group. If children enjoy this activity, it can be done over and over with the same map, but different X's.

Misc-5C Year-Round Nature Walk

Uses: Large motor
Conceptual (plants, seasons, and memory)

Description: Walk in a park, field, or woods during the fall and have the children bring back a collection of leaves, dried weeds, pods, or bark for the exploring table or an arrangement for the snack table. Take the same walk as many times as possible during the year, at least in winter, early spring, and late spring, looking each time at the same places and bringing back things of interest. Talk about changes from one walk to another and ask children what they think will have happened by the next trip. (It is particularly good if the place can include some form of water, either a stream, lake, or pond, so that water animals, changes in termperature, freezing, and thawing can be observed.)

Materials: A place to go, baskets or bags to carry materials, magnifying glass, and (if water) a thermometer.

Comments or Cautions: If there is no such space within walking distance of the school, a brief visit to "our meadow" or "our park" might be included on the way home from other field trips by bus or car during the year.

Misc-5D Mailing a Letter

Uses: Social-emotional (self-concept)
Conceptual (geography and community workers)

Description: There are many occasions on which children might be interested in dictating a letter to the teacher or in making drawings to send to someone. The class may want to do this if a child is ill in the hospital or to thank a visitor for something he had brought or shown them. Individual children might want to write if a parent was ill or away, or just to be writing. An older class of children might want to compose an invitation to invite their parents to a party or picnic, and decorate their individual copies after the letter had been printed and dittoed by the teacher.

The field trip might then include a walk to the nearest mailbox, if possible just before the mail was to be picked up, so that they could see the mail truck. (Do not depend on the sign on the box; check with the post office and tell them why.) Or a small group of children might go to the post office to mail the letter and see what happened to it inside, if possible.

Materials: Letter writing materials and stamps.

Comments or Cautions: The trip to mail the letter could be preceded or followed by play delivering mail in the classroom, using Christmas cards still in their envelopes or junk mail. A mailbag and mailbox might be improvised.

Misc-5E Walk to Find Chimneys

Uses: Large motor
Conceptual (memory, and types and parts of buildings)

Description: If children become interested in looking at their school building point out various features such as the chimney, the windows, doors, or the material that the building is made of. Suggest a walk in which children try to find many different kinds of chimneys (or doors, etc.). Later ask children about what they saw, and if they seem interested make a list of differences in the objects which they saw. Children might then look in books and might want to see what kind of chimneys, for example, the buildings in which they live have.

Comments or Cautions: This is one of those activities which is often very involving and leads to many other related activities if children are really interested and if the teacher follows their lead in the direction it takes. It can fall really flat if the teacher tries to impose it without regard to initiation from the children.

Misc-5F Trip to Apple Orchard

Uses: Conceptual (food sources, plants, texture, color, sequencing, and machinery)

Description: Make arrangements early in the season as it may be difficult to get an appointment. Try to find an orchard where each child can pick an apple from the tree or the ground. Provide a container such as a sturdy paper bag for each child and put his name on it.

Materials: Sturdy container for each child and money for each child. (Or plan to buy one half-bushel to bring back to school. Buy cider also for snack time.)

Comments or Cautions: If possible, take a camera and get pictures to talk about later. Any of the concepts listed above can be discussed, but work them in naturally. Children may be too involved in what they are seeing to want to listen while they are actually on the trip.

Avoid too many phases such as grading, storage, and cider-making. Sitting up on a tractor or riding in a wagon may be more important. Use apples for applesauce, salad, and just eating. Be sure each child has some to take home or do with just as he wishes.

Misc-5G Trip to Buy Ice Cream

Uses: Large motor
Conceptual (money, temperature, taste, safety, sequencing, and food sources)

Description: This makes a good walk if there is a nearby ice cream store or cafe. Plan a time when the store will not be crowded. (Make arrangements ahead of time.) Explain to children where they will be going and suggest two choices of flavors such as chocolate and vanilla. Give each child his money when you arrive at the store. Let him ask for the flavor and pay for his own. Be prepared to show children where to sit. Help them dispose of trash when finished.

Materials: Supply of coins for each child, box of tissues and wet sponge in a plastic bag.

Comments or Cautions: Drinks of water and napkins may be important part of trip. Check location of trash containers. Remove bowls of sugar and especially *artificial sweeteners* from tables if children are to sit at tables.

Misc-5H Geographical Bus Ride

Uses:	Conceptual (geography and transportation)
Description:	If going on a bus trip to any special place or just on a ride, plan an itinerary to go up and down a hill, over a bridge where children can see water, through an underpass, etc. Or this might just be a ride around a familiar neighborhood, past children's homes, grocery store, and brothers' and sisters' schools. When possible the children should have the opportunity to walk or play in appropriate areas. Stop in a park and run down a hill or walk across a bridge.
Materials:	Bus or cars.
Comments or Cautions:	When the major purpose of the trip is looking out the windows of the bus, change places on the way back so that all children can see out the windows. (Do not try this if the only bus available has windows so high children cannot see out.) For older children interested in maps, the teacher could make a large map with streets and places of interest clearly marked, which children could look at before and after the trip. Pictures might be taken and glued on the map.

Misc-6 Visitors in the Classroom

Bringing visitors into the classroom can serve a number of purposes. It provides the opportunity for children to learn to be comfortable around strange adults and to find out that many adults have interesting things to show and to talk about. However, being sure that such visits are good experiences for both the visitor and the children requires planning and thought on the part of the teacher.

The purpose for having the visitor should be related to current interests of the children, and they should be prepared ahead of time by discussion of who he is and what he plans to do.

If the visitor will be bringing something to show the children, the teacher should check ahead of time as to whether the children will be able to touch or hold the object or animal and whether there are any safety problems involved. If something special in the way of preparations is necessary (such as a cage for an animal, electrical plugs and extension cords or a projector) the teacher should also have checked this out. Usually there is a good deal of excitement at such times, and last minute problems add to the confusion.

For preschoolers and kindergarteners it is always better to have a visitor who brings something or who does something rather than one who just talks. For example someone who brings in a turkey, a baby lamb, or a snake can then provide a variety of information about animals and how they are cared for. If the children are interested in musical instruments, a series of visitors could bring and play various instruments for them. With a little imagination teachers can provide experiences quite different from the usual visit from a fireman--for example having a father who is a plumber bring in his tools and show how they work, or some child's great grandmother might come, bringing a doll that she had when she was a child.

Particularly when asking a stranger such as a fireman or policeman or other community worker to come in to talk with the children, the teacher should have a good idea of how he is likely to behave--either from talking with other teachers who have had a good experience with this particular person or from seeing him with children in an informal situation. An adult who expects young children to act like school age children and bores them with a lecture, one who frightens them with talking about bad boys and girls, or someone who talks down to them is obviously not going to make for positive feelings toward adults on the part of the children.

While the actual demonstration by the visitor may be very brief, the children may enjoy a chance to show him or her things of interest around the school and to have the visitor stay for snack. In fact in many classrooms just having visitors come in for a special snack visit can be a frequent and enjoyable experience as children take responsibility for the preparations and entertaining. At one school the janitor and the cook regularly joined the group for special occasions such as birthdays or to sample cooking projects. In others parents are asked in for similar occasions.

Misc-7 Timer

Uses:	Social-emotional (taking turns) Conceptual (telling time)
Description:	If some children are having difficulty sharing certain items, the teacher might help the children by setting a timer to give each child time to play with the toy. Use a timer with a bell or buzzer or a glass timer with sand, usually referred to as an egg timer, both found in stores selling kitchen equipment. A timer may also be improvised by rolling a piece of sheet plastic or heavy paper into a cone, filling it with fine white sand or salt and setting it in a glass or jar. (Time it ahead of time to see approximately how long it takes to run through.) Most children will be fascinated watching the sand or waiting for the bell until it is their turn.
Materials:	Timer, commercial or homemade.
Comments or Cautions:	Hourglass timers are often very fragile and are broken easily. This activity should probably only be used when a real problem arises between two children so it remains effective and meaningful when used. (Avoid overuse.) However, when children become interested in concepts of time, any of these timers may also be introduced with the comment that people used to use timers before they had clocks or watches.

Misc-8 Counting for a Turn

Uses:	Social-emotional (taking turns) Conceptual (rote counting)
Description:	When several children want to use an activity (e.g., jumping board) count as child jumps: "1, 2, 3, 4, 5, 6, 7, 8, 9, 10, jump down." (The other children will join in.) Counting may also help a child, hesitant to go down a slide or slow to turn off water--"1, 2, 3, down you go," or "Let's count to 5 and then it will be time to dry your hands."
Materials:	None
Comments or Cautions:	Obviously the idea is to focus the child's attention on something other than the thing that he really does not want to do, and to do this the counting must be done with enthusiasm and involving the child himself. Watch out for children who may react negatively because they have been told, "You'd better be done before I count to ten, or else!" *Do not overuse.*

Chapter 21

Trash to Treasures[1]

TTT-1 Outside Stepping Stones

Needed:
A long log about twelve inches in diameter
Buzz saw
Wood preservative

Description: Slice log with saw, about three inches thick. Paint with at least two coats of wood preservative. Be careful to cover *every* inch. These can also be soaked in a pan that allows the preservative to completely cover the log slices. Let them dry standing on end. Place them either to avoid mud in the traffic pattern or for the sheer fun of stepping from one to another. The children love to move them around as they see fit, sometimes just stacking them and sitting on top.

TTT-2 Logs

Needed: Logs with or without sawed off branches attached.

Description: Logs are useful for climbing, jumping, balancing, and many kinds of imaginative play. *Very* small ones may be rolled from place to place, others which are heavier should be set securely into place. Care should be taken that pieces of log will be used so that they will not roll in a way to cause injury. Rough, splintery edges should be sawed off or sanded.

TTT-3 Ladders

Needed:
Old working ladder
Saw
Sandpaper
Nontoxic paint

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[1] Written by Sue McCord and used with her permission.

Description: If you can find an old ladder, saw off a ladder for children (between five and six feet). Sand edges carefully and paint if it is going to be used outside.

TTT-4 Liquor Box Blocks

Needed:
Cardboard liquor boxes or other reinforced cardboard boxes
Masking or wrapping tape
Tempera paint if desired

Description: Heavyweight cardboard boxes make useful blocks. The tops can be taped shut and the children will enjoy painting them. A child can build a high "tower" safely or he can knock down his structure with little danger to himself or others. If the boxes are special double cardboard with cardboard sections inside to serve as reinforcers they can be used to sit on or walk on (as part of an obstacle course). If this is the case, the top should be painted a special color or otherwise marked so that it can always be the side stepped or sat upon. Some children will be able to throw these blocks easily, and this should be avoided unless special circumstances make it acceptable.

TTT-5 Milk Carton Blocks Lego

Needed:
Twelve or more quart milk cartons, well rinsed
Sharp scissors or an X-acto knife

Description: Using the bottom of a quart milk carton as a pattern, place it anywhere on the side of another milk carton and trace around it. Cut this traced area out completely with scissors or X-acto knife. This cut out place provides a slot for another milk carton to stand in. A set of these can be used by the children for sculptures or buildings of many kinds. Half-gallon containers with quart-size holes make more stable bases.

TTT-6 Coaster Building

Needed: As many cardboard or fiberboard beer coasters as possible, donated by the local tavern or distributor
Nontoxic paint

Description: Slit the coasters from the edge toward the center with a sharp kitchen or X-acto knife. Make four slits *one inch long*. (Slits are opposite each other so the circle appears to be divided into four equal parts; *however, slits are only one inch long and do not cut through center of circle.*) Paint in bright colors.

The object is to insert the slit of one coaster into any slit of another coaster, thus building from there in any direction. By attaching a string to one of the coasters, a unique mobile can be suspended from the ceiling.

TTT-7 Pegboard Easel or Stringing Board
(The Board of Many Uses)

Needed: Two pieces of 18" x 24" pegboard
Two notebook rings
Two strong, large shoe laces
Twenty or more golf tees, unpainted (If the tees are painted, soak them in a solution of Comet and water. The painted tees slip out of the boards.)
Lacing and stringing materials such as assorted yarn or string, colored rubber bands, pot holder loops, shoe laces, plastic lacing, etc.

Description: Have lumberyard cut boards to measurements specified above. Insert rings through the last holes on the top of each side of the board. Tie the shoe laces through holes at the midpoint on each side of the pegboard to keep the boards from sliding.

This basic structure can become an *instant easel* if paper is attached by pushing golf tees through the paper at the top corners. Clothespins will also successfully attach paper.

To make a *stringing board*, children insert golf tees into the holes anywhere they choose. Stringing materials are provided such as those mentioned above. These are wound or looped around tees to make interesting patterns. The yarn, string, shoe laces, etc. can be strung or woven through the holes without using the golf tees if desired.

TTT-8 Six-Pack Paint Case

Needed: Emptied soft drink or beer six-pack cardboard containers
Frozen orange juice cans

Description: This is one solution for spilled paint while working on murals or on portable easels. Mix paint in orange juice cans or any other cans that will fit in carton sections. Cartons hold the cans securely and prevent spilling as brushes are dipped into paint. They are easily carried from one section of mural to another.

TTT-9 Bottle Magic Markers

Needed: Empty shoe polish bottles with roll top
Tempera paint

Description: Wash out bottles well. Fill with desired color of paint. Screw on the top securely and use as a magic marker.

TTT-10 Smocks

Needed: Man's old shirt or child's slicker

Description: Cut the sleeves from a man's old shirt so they will not be in the way. If sleeves are then hemmed they will be more durable, but this is not necessary. Put on child backwards for "maximum coverage."

Cut the sleeves on a child's slicker if necessary to keep out of the way. Again put on child backwards. This smock is especially good for water play.

TTT-11 Rubber Band Board

Needed:	Colored rubber bands Piece of wood any size or shape that can be easily handled by the children Nails
Description:	Hammer nails randomly all over the selected board. (Many children prefer to do this themselves.) The children can then stretch the rubber bands on the nails connecting them in various patterns. Small boards can be used individually; a large board for a small group to work on might be interesting to explore. As a variation the teacher can make up a set of boards in which the nails are arranged in a grid or circle pattern, but she should be sure that children know that making a random pattern is just as acceptable and perhaps more fun.

TTT-12 Flannelboard

(For Individual Use)

Needed:	Heavy cardboard (20" x 12") One yard flannel, felt, or burlap Masking tape
Description:	Cut cardboard from a grocery carton, or use similar cardboard sheets used for packing. 20" x 12" is merely a suggested size. Cut fabric so that it is two inches bigger than the piece of cardboard. Fold material over back of board as if wrapping a package. Secure with tape.

Flannelboard Figure Suggestions

1. Draw figures freehand on poster paper or shirt cardboard and cut them out. Paste a strip of sandpaper on the back so they will stick to flannelboard easily. (Figures can also be traced on felt and cut out.)
2. Use old books and cut out the animals or people needed. Back with sandpaper strips.

3. Use coloring book figures; paint or color them and then put a large strip of sandpaper on the back to keep them from being limp.
4. Use appropriate magazine pictures. Paste them onto poster paper (for added strenght) and cut them out. Paste strip of sandpaper on back.
5. When using paper figures, cover them with clear contact paper to increase their durability.
6. Take photographs of the children and cut them out. Back them with sandpaper and weave a tale about them.
7. Have the children draw their own flannelboard figures and help them put the sandpaper on the back.

TTT-13 Bean-bags
(With a Twist)

Needed: Six varying textures of fabric (ranging from silk and satin to burlap), each a different color
Dried beans or peas

Description: Cut two bags each in the shape of squares, two as triangles, and two as circles. These bean-bags can be used in various ways to help a child with such concepts as texture, color, and shapes.

Suggestions on Making Bean-bags

1. Cut two squares measuring 6" x 6". Sew up three sides (right sides together). Turn right side out, stuff, and close last seam by hand.
2. Cut two triangles measuring 8" x 8" x 8". Sew up two sides, (right sides together). Turn right side out, stuff, and close last seam by hand.
3. Cut two circles measuring 4" in diameter. Sew around the circle, (right sides together), leaving a large enough opening to turn right side out and insert beans. Stitch opening by hand after stuffing and turning.

TTT-14 Punching Bag

Needed:
Pillow case
Iron-on tape
Newspaper, old blanket, old sheets, stockings, etc. (for stuffing)
Thick rubber band

Description: Put a face or a design on pillow case with iron-on tape. Stuff with anything soft and close it at the bottom with the rubber band. This bag becomes a wonderful thing to kick, punch, and drag around. It can be hung from a hook in the ceiling or doorway.

TTT-15 Tin Can Scissors Holder

Needed:
Large tin can
Contact paper
Beer can opener

Description: Clean can well and check for any sharp places where the can was opened. Turn can over and all around the edge of the can make triangular openings with the can opener. Cover the can with contact paper and insert scissors in the openings. The can will hold about twelve pairs of scissors.

TTT-16 Wall Hangings

Needed:
Brightly colored burlap (Amount will depend on area to be covered. "Banners" six to eight feet long and just the width of the burlap are especially effective.)
1/2" dowel rod (The length again depends on the width of the burlap to be used.)
Sewing machine

Description: If extra display space is needed or if the walls are ugly and bare, burlap wall hangings are a cheap solution. Fold the top two inches of burlap over and sew a hem one inch from the top. Fringe remaining edge for a nice finish. Staple to molding or insert a dowel through hem, wind wire around each end of dowel, and hang from molding or nails. Use as a bulletin board, for displaying children's art or art prints. Use straight pins to fasten pictures to burlap.

TTT-17 Puppet Theater

Needed:
Old sheet
Scissors

Description: Take an old sheet, either the whole sheet or any desired size you wish to cut and hem one end so that a rope or string or dowel can go all the way through for hanging up the sheet. (A wide door or archway may be a good place to hang it.)

Holes of various shapes can be cut in the sheet for puppets to peek through, walk through, etc. It can be as elaborate or simple as the children make it.

TTT-18 Cloth Puppet I

Needed:
Any kind of strong fabric
Three buttons
Thread

Description: Cut one long strip of material about 18" long and 5" wide. Fold right sides of fabric together and sew up both sides, leaving the bottom open for your hand. Hem along the bottom. Turn right sides out and sew two buttons for eyes and one for nose.

TTT-19 Cloth Puppet II

Needed:
Plain fabric (old sheet)
Iron-on tape or crayons
Thread
wool yarn scraps

Description: Cut two pieces of fabric in the shape of a dusting mitt. (Ours measured about nine inches long and narrowed off at the top to about four inches wide.) Stitch with right sides together leaving the bottom open. If you wish to have hair, cut about twelve strands of wool yarn about three inches long. Insert the wool at the very top of the seam before stitching. The hair will then be secure. Turn right side out and put on a face, using either iron-on tape or crayons. (The children can do it if crayons are used.)

TTT-20 Paper Bag Puppet

Needed:
Paper bag No. 5
Construction paper
Magic markers or crayons

Description: Use the flat end (the bottom) of the bag for a face. A construction paper tongue can be stapled or pasted under the bend of the bag. Put hand in bag with four fingers in the crease and the thumb at about the chin and "open and shut" the mouth of the puppet.

TTT-21 Ice Cream Stick Puppet

Needed:
Ice Cream sticks or tongue depressors
Coloring book, magazine, greeting cards, or free-hand drawings of people and animals.
Glue

Description: Cut out desired picture and paste it to the ice cream stick. "Instant animation."

TTT-22 Finger Puppet

Needed:
Your favorite finger or thumb
Magic Marker or crayon

Description: This is a wonderful thing to have at your disposal. Just pop up a finger, put a face on it using magic marker or crayon and use it to talk to the shy, upset or unresponsive child, depending on the needs of the moment.

For a variety, try poking a hole in Kleenex or use a circle of patterned fabric with a hole in the center and slide it over the finger puppet for clothes. This can be fun for a spontaneous "puppet show."

TTT-23 Fist Puppet

Needed:
Your own fist
crayons or magic marker
Easily removable lipstick for "mouth" area

Description: Make a fist. Put crayon or magic marker eyes and nose on the side knuckle of the index finger. Paint on a lipstick mouth (thumb and lower palm). By moving the thumb up and down the puppet will "talk." For variety, put a scarf around the hand to look like the puppet's kerchief.

TTT-24 Glove Puppet

Needed:
Old glove
Magic markers

Description: Each finger on an old glove can have a different face. Fingers pop up and down as each finger "talks" to the children or to one another. These puppets are easy for the children to use because they do not slip off their hands.

TTT-25 Dollhouse

Needed:
Four medium-size cartons or four shoe boxes
Strong paper clips
Scissors and paste
Wallpaper samples, art paper, and/or contact paper
Carpet and/or material scraps

Description: Arrange boxes in any desired fashion and attach the sides together with oversized paper clips. This is a "plan type" house, children looking into the rooms from the top. An "elevation type" house is made by simply turning the boxes on their sides, and stacking one on top of the other to make "floors." Windows and doors can be cut with X-acto knives to make house more realistic; however, "plan" and "elevation" houses cannot then be interchanged as doors and windows are in different places on each type.

Let the children decorate the walls of the house, using crayon or paint directly on the cardboard; or cut pieces of wallpaper samples, art paper, or contact paper which can be pasted to the walls. Carpet scraps or material scraps make good rugs.

Use small boxes, spools, wood scraps, material, and glue to make your own doll furniture.

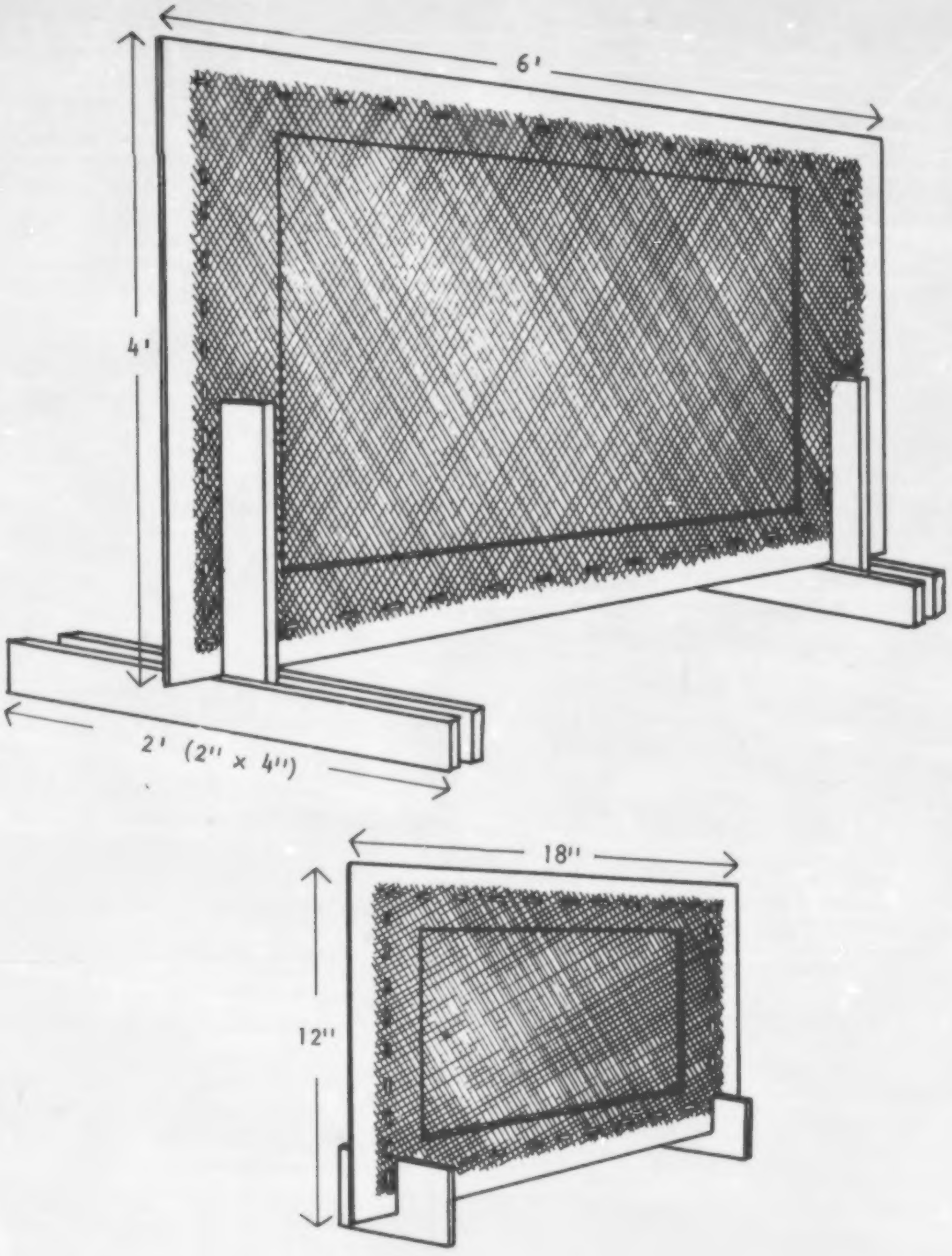
TTT-26 Telephones

Needed:	Two paper cups or two soup size tin cans String or very fine wire Hammer and nail
Description:	Hammer a hole in the bottom of both cans with a strong nail. Put string or wire through holes and knot on the inside so the string or wire will not come out. One child holds one can over his ear while another child speaks through the other can. Keep the string or wire as tight as possible while in use.

TTT-27 Sewing Frame

(For large group)

Needed:	Tri-wall 4' x 6' (See *School Supply Sources.*) Eight pieces of 2" x 4" wood, each two feet long Three yards netting at least five feet wide Sabre saw and staple gun Two people to help stretch and hold Yarn in a variety of colors Blunt darning needles (Plastic work fine.)
Description:	Tri-wall is a triple thickness cardboard and therefore very durable. To make the sewing frame take one sheet of tri-wall 4' x 6', cut out the whole center leaving a five-inch frame. Either fine fishing net or regular dress netting will serve the purpose. Stretch netting over the frame and staple with a staple gun to the backside of frame, turning the edges of the netting under so it will not unravel. To make the base of the frame see illustration below. A table size frame may be similarly made. For this, feet cut from tri-wall may be adequate. (See illustration.)


6'
4'
2' (2" x 4")
18"
12"

Sewing frame for large group and table size sewing frame

TTT-28 Temporary Spider House

Needed:

Large (commercial) glass jar with screw-on lid with small holes punched in it
Sand or dirt
Cotton
Twig
Spider (check in spider book and be sure what you have)

Description: The *How and Why Series* has a good book on spiders. (See Appendix.) School cafeterias are good places to find large glass jars, or look any place where food is served in large quantities. Fill jar with about two inches of sand or dirt. Put a twig in the sand so that it stands up almost to the top of the jar or leans against the side. A piece of cotton should be in the jar and lightly moistened about every fourth day. It is a good idea to let the spider go after a couple of weeks, as feeding them is very difficult.

TTT-29 Caterpillar Cottage

Needed:

A plastic crisper box, or plastic storage box with lid
Electric drill or hot nail for putting air holes in the lid of the box
Soil, milkweed leaves, and moss
Caterpillar

Description: Put an inch of soil in the bottom of the box and some twigs, milkweed leaves, and moss. This is a temporary home for observing how caterpillars move and what they do. Putting a magnifying glass next to the animal home makes investigation more interesting.

TTT-30 Toad's Home

Needed:

All of the materials mentioned for the Caterpillar Cottage, except the caterpillar
Some worms
Small stones
Jar lid full of water or shallow dish
Toad

Description: A toad can be happy in this environment for about a two-week period.

TTT-31 Worm House

Needed:
Large (commercial) glass jar
Orange juice can, large size
Sand or soil
Worms

Description: Fill the orange juice can with soil and place in the bottom of the jar. Fill the rest of the jar with sand or soil. (Putting the can in the center forces the worms closer to the outside of the jar where the children can see them.) Sprinkle oatmeal on soil for the worms to eat. Moisten the soil by poking wet cotton into the sand every few days.

TTT-32 Bird Feeder I

Needed:
Grapefruit shell or walnut shells
Bacon fat
Electric fry pan or hot plate and pot
Thin wire

Description: Cut grapefruit in half and have a feast on the fruit. Clean out well. Cut three pieces of wire about 8" long for each half. Pierce three equally spaced holes in the side of grapefruit to put wire through. Melt bacon fat, pour into grapefruit shells, and let it harden. Then attach a wire to branch of tree for a bird feeder. (Use walnut shells similarily.)

TTT-33 Bird Feeder II

Needed:
Grapefruit or orange net bag
Solid fat or suet from meat counter at supermarket

Description: Put solid chunks of fat or suet into the grapefruit bag. Tie high on a tree branch for the birds' winter picnic.

TTT-34 Bird Feeder III

Needed:
Clorox bottle
Wire or string
Suet and birdseed mixed
Sharp scissors

Description: Clean bottle thoroughly. Cut three arch type openings, equally spaced around the sides. Fill the bottom of feeder with suet and seeds and hang from strong tree branch.

TTT-35 Matching Paint Sample Chips

Needed:
Two cards each with samples of paint colors or two sets each of paint chips of various paint colors

Description: Most paint stores will give you cards of paint samples or perhaps their sample chips that are no longer in stock. Cut up the cards (two of each color) and put them in a box for children to sort.

TTT-36 Cellophane Windows

Needed:
Rolls of colored cellophane
Windows in the classroom
Masking tape

Description: Cut cellophane a little smaller than the window pane. Attach to window with tape. Children look out into a world of red, blue, yellow, etc.

TTT-37 Lotto Construction

Needed:
Art board or other cardboard
X-acto knife
Roll of clear contact paper

Description: Cut six 6" x 9" sheets of art board for main cards. Cut 36 matching cards 2" x 3". The faces of the main sheets are made first. Paste six pictures on each sheet. Then make 36 individual cards to correspond to the main sheet in whatever concept you wish to explore (colors, animal homes, foods, etc.). Use magazine pictures, commercial stickers, coloring book pictures, inexpensive Golden book pictures, or teacher-made ones. Remember to buy or make two of each for anything that you want to match exactly. Cover with clear contact paper.

TTT-38 Spools for Graduated Size Sequencing

Needed:
Five or six spools in graduated sizes
Nails (with heads small enough to fit holes of spools)
Adequate board (scraps of pine or plywood)

Description: Cut board to workable size, giving the child enough room to manipulate the spools easily. Hammer nails in board and let child place spools in a sequential order.

TTT-39 Nesting Cans

Needed:
Cans in graduated sizes
Contact paper in lively colors, or wallpaper covered with clear contact paper or clear finish

Description: Save any cans such as: large fruit cans, medium-size fruit and vegetable cans, and small fruit juice cans. Make sure there are no sharp edges where the cans were opened, wash, cover with contact paper, then stack together in graduated size. (It may be possible to find up to six or seven sizes, using baby food cans to institutional cans.)

TTT-40 Exploring Boxes

Needed:
Good size cardboard box with a lid
Assorted goodies to explore

Description: A *feeling box* is made if a hole is cut on one side of of the box large enough for a child's hand to fit through. Remove the lid and place something inside: feather, marble, piece of fur, bird's nest, block, pine cone, cotton, etc. The child can reach in and guess by feeling.

A *looking box* will help a child visually explore something by focusing attention on an object. Cut a hole in one side of the box and put clear hard plastic over the hole from the inside. A variety of interesting items could be put inside to visually explore (leaf, toad, rock, new box of crayons, etc.).

TTT-41 Rhythm and Musical Instruments

(Great projects for parent involvement)

Needed:

Drums: oatmeal box, round cardboard ice cream containers, nail kegs
Sand blocks: blocks of wood approximately 5" x 4", sandpaper
Rhythm sticks: dowels 1/2" in diameter
Bells: jingle bells, old gloves or elastic

Description: An *oatmeal box drum* is made simply by covering an empty oatmeal box with contact paper.

An *ice cream container drum* is constructed from round, cardboard ice cream containers obtained from local ice cream store (about 25¢ if unused and free for the cleaning if they have held ice cream).

If the local hardware store will part with their kegs a *nail keg drum* is made by sanding and painting or varnishing the kegs. Use an old inner tube rubber for the drum head. Cut a piece of rubber about two inches larger all the way around than the top of the keg. Stretch the rubber across the top of the keg and secure with brads or staple gun. This is more work than an oatmeal box, but has a good quality, much deeper sound.

Two 4" x 5" blocks of wood sanded, painted, or varnished make good *sand blocks*. Fold sandpaper over one side of the block, leaving enough overlap on the sides to staple or tack sandpaper in place. A 1/2" piece of elastic can be attached to the opposite side for child to slide his hand under, or a wooden knob can be screwed in for a handle.

To make *rhythm sticks,* purchase dowels from the hardware store approximately 1/2" in diameter. Use a variety of sizes if desired. Sand and finish with varnish or paint.

Children will love to use *bells* made by sewing jingle bells on the fingers of old gloves. Child shakes his gloved hand for the sound effect. Sew bells around an old cuff from a child's sock or 1/2" elastic cut to a length just slightly smaller than child's wrist and sew elastic ends together. Child pulls cuff or elastic bracelet over wrist and shakes.

TTT-42 Sound Experiences

Needed:
Metal or wooden scrubboard and thimbles
New comb and wax paper
Coconut
Scoops from Chockful O' Nuts coffee
Tin salt shakers

Description: Using a *scrubboard and thimbles,* child produces interesting sound by putting three or four thimbles on his fingers and "scrubbing" up and down on a metal or wooden scrubboard.

A new *comb with wax paper* over the teeth is a fun instrument to hum on.

Coconut tone blocks are made after the coconut has been emptied by putting a hole in one end (hammer and nail) and split in half. Let the children have fun chipping and eating the coconut meat. The empty shells are knocked together to form a follow, hoof-like sound. If a string or yarn is put through the hole and knotted on the inside, it is held and one side of the coconut is struck with a drum stick.

Open walnuts carefully and let children eat the delicious meat and save the shells to make *English walnut crackers.* Hold a shell in each hand and tap together for unusual sound.

To make *shakers,* save the measuring scoops from Chockful O' Nuts coffee. Take one scoop and partially fill with rice. Cover with another scoop and tape together with masking or adhesive tape. The scoops can be painted if desired. *Tin salt shakers* partially filled with rice or split peas make interesting sounds. Paint gaily and you have instant shakers.

Paper plate shakers are made by putting dried peas, etc. inside two paper plates or pressed tin pie plates, right sides together and the edges stapled. Instant shakers could be *seed packets*, the different sizes of seeds making distinctive sounds.

TTT-43 Shape Box

Needed:
Short pieces of various shapes of molding and dowels from the lumberyard
Shoe box
Sheet of cardboard to reinforce lid
X-acto knife and glue

Description: Cut short pieces of molding one to two inches long. Sand off rough edges and paint if desired. Take lid of the shoe box and reinforce it by glueing an extra sheet of cardboard on top or inside of lid. Turn the lid upside down, draw around the cut end of each of the shapes, making a hole slightly larger than each shape and cut with X-acto knife.

TTT-44 Three-Dimensional Sculpture

Needed:
Meat trays, shirt cardboard, egg cartons
Toilet tissue rolls, paper towel tubes, empty ribbon rolls, cardboard thread spools
Boxes of various types such as matchboxes, toothpaste, and spice boxes, etc.
Scissors

Description: Set out the gathered materials with glue and let the children "build." Scissors allow the children to cut any shapes from the materials provided, but be ready to offer help since many of the materials will be difficult to cut.

TTT-45 Food Coloring Experiences

Needed:	Small bottles of commercial food coloring Medicine droppers Clear plastic ice cube trays with secured, permanent dividers Paper towels or filter paper Large glass jar of water "Wipe up" materials such as sponges, etc. Cover for table or work area
Description:	Put one color in each section of the ice cube tray. Dilute with one medicine dropper full of water. Children can explore color by mixing in their trays. A variation would be to drip the various colors on paper towels or filter paper and watch them run together.

TTT-46 Outdoor Mural

Needed:	Outside fence or clothesline attached between two trees Clothespins Paint, brushes, and cardboard six-pack container
Description:	Attach brown paper to fence with clothespins. If there is no fence on your playground, tie a rope between two trees and attach brown paper with clothespins or put a rock on every corner of the paper and paint on the ground. Use the cardboard six-pack container to hold the paint in juice cans to avoid spills.

TTT-47 Sawdust Dyeing

Needed:	Clean sawdust About four medium-size cardboard cartons Dry tempera paint Plastic buckets
Description:	Line bottom of boxes with tin foil. (A box is supplied for each color.) Place a few layers of paper towels down on top of the tin foil. Set aside. In plastic buckets, mix the dry sawdust with whatever amount of dry tempera you wish. The

more tempera, the deeper the color. Mix well. Add about a half a cup of water slowly and mix again with hands. This is mushy and fun so let the children do it! When the sawdust is well colored, sprinkle it in the boxes for drying. Naturally it will dry faster if the boxes are placed next to a source of heat. *Watch out for sawdust in eyes.*

The colored sawdust can be used by pasting it on cardboard, or it can be molded if mixed with equal parts of wallpaper paste.

TTT-48 Toys for Water Play

Needed:
Egg beaters
Plastic detergent bottles or containers
Plastic meat baster
Funnels
Straws (Plastic are more durable.)
Corks
Walnut shells
Mustard tops with pump lids
Measuring cups and spoons
Plastic pitchers
Toy boats

TTT-49 Things to Try with Woodworking

Needed:
Wood scraps
Spools
Corks
Bottle caps
Nails of various sizes
Rubber bands
Pipe cleaners
Washers

Description: A tree stump provides a wonderful way to learn how to hammer without any frustration of a project to complete or the frustration of keeping two pieces of slippery wood together while hammering a nail through them.

Try collecting small pieces of wood in various shapes for the children to paste. (Building with paste is an interesting concept.) Cardboard forms a good base for the creations if a large piece of wood is not available.

TTT-50 Ideas for Housekeeping Corner

Needed:

Old artificial flowers that the children can arrange
Plastic type holders to arrange flowers in
Small pots and pans from rummage sale or Grandma's attic
Salt and pepper shakers (empty)
Adult brooms and mops with handles sawed down to child's size and sanded
Empty cans of vegetables and fruit, milk cartons, and frozen food containers with pictures and labels taped on
(Parents can collect these materials.)

TTT-51 Treasure Boxes

Needed:

A medium to large sturdy box with lid
Interesting things to manipulate and explore such as: gadgets; small boxes which open in various ways; rocks, sea shells, and small dried sea animals; objects with interesting and various textural qualities such as smooth, fuzzy, rough, etc.

Description: Children love to sort and look at all kinds of miscellaneous objects. Boxes full of such objects can be available on the shelves for exploration. The boxes will be attractive if decorated with contact paper, etc. These treasure boxes can be of several different kinds:

A *gadget treasure box* might include such attractive gadgets as: locks and keys, old plug and socket, nuts and bolts of various sizes, hinges, an old alarm clock, a broken radio with glass tubes removed, an old telephone receiver, flashlight, old watch, light switch and plate, etc. A screwdriver and magnets will make more thorough investigation possible.

The *treasure box of boxes* makes use of small boxes that open in interesting ways. These could include bandaid, candy, toothpaste, cigar, kitchen match and other slide-top boxes. The children will have fun opening these boxes to discover interesting fillers such as: pinch clothespins, garters, thimbles, magnets, snap change purse, small jack-in-box, shower and notebook rings to link together, small pop-it beads, etc.

A collection of smooth polished stones, small rough rocks, pebbles of exciting colors, sea shells, and sea animals such as coral and starfish will make a wonderful *rock and sea shell treasure box*.

A box of *texture treasures* would include many objects with distinct textural qualities. Some suggestions would include: emery board, sandpaper scraps, fur scraps, pieces of styrofoam, sponges, stones both rough and smooth, yarn, ceramic tile, pipe cleaner, blown egg shell, pods or seeds, textured fabric scraps, etc.

TTT-52 Dress-up Clothes

Needed:

Boots
Slickers
Hats
Evening dresses
Nightgown
Girdles
Men's or boy's jackets
Men's or boy's pants
Housedresses
Shoes (avoid very high or spike heels)
Pocketbooks
Small suitcases
Old eyeglasses with glass removed
Maternity tops (need no hems--perfect size)

Description: Parents, friends, Salvation Army, Goodwill, and rummage sales are good places to start your hunt for usable dress-up clothes. It is also wise to let firemen, retired nurses, etc. know that you would love their leaky boots and old uniforms. Nothing is more conducive to role playing than the *real* thing.

TTT-53 Clothes Rack

Needed:
Lumber
Nails
Hammer
Paint
Dowel
Hangers (preferably wooden)

Description: If possible display or store things so that the children can see them and put them away easily at cleanup time. An old book shelf works well for hats and pocketbooks. The floor shoe rack works well for neat display of shoes and an easy pick up.

A clothes rack made to a child's height is ideal, but not always simple to make.

TTT-54 Cardboard Easel

Needed:
Cardboard box
Sharp knife

Description: Cut the box diagonally across one corner. Set it up with open side down so that it looks like an elongated teepee. Tack paper on for painting.

TTT-55 Plastic Jug Objects

Needed: Large plastic jugs such as those used for Clorox, fabric softeners, etc. (Be sure to wash thoroughly.)

Description: To make *paint buckets*, diagonally cut neck off of Clorox jug leaving handle on. This is particularly handy for mural painting. These jugs could also be filled with water for "painting" outside.

A good *sand scoop* is made by punching a hole with scissors one inch below handle. Turn scissors to right and cut along rim for three inches. Turn scissors toward the bottom of the jug and cut all the way down the side to the very bottom. Go back to handle, turn scissors to the left and repeat the same procedure as for the right side. Cut all around the bottom of the jug until it is completely off. Round all corners to finish.

To make a *crayon bucket*, start about one inch below the handle, cut off neck and handle, and decorate if desired.

Follow the directions for crayon bucket to make a *smock holder* for each child. Put the child's name on the side with a magic marker. These could be for the child's personal storage of any kind.

TTT-56 Large Dice

Needed: A square box
Colored paper

Description: Paste colored dots or paint dots to resemble dice. The box can be taped closed and covered, if necessary, with clear contact paper.

TTT-57 Small Dice

Needed: One-inch square wood cubes
Paint

Description: Have your local hardware store saw off a few one-inch square pieces of wood. Sand them well and put dots on with enamel paint and spray with clear plastic for durability.

TTT-58 Bottle Board

Needed: A variety of plastic bottles with lids of different sizes
Square of plywood about 18 inches square
Staple gun

Description: Cut off tops of bottles so that only about an inch of plastic remains all around the screw top. Slit the plastic so that the top can be stapled flat to the board. Children can now screw on and off lids easily. It may be desirable to fasten a very small refrigerator dish with lid onto the board to store the lids.

TTT-59 Screw Eye Board

Needed: Square of plywood of any desired size
Screw eyes
Plastic lacing

Description: Drill small holes in the board in any desired pattern and screw in screw eyes large enough for easy insertion of plastic lacing. Children can then lace with various colors and remove lacing when they are done. Older children could help with the production of the boards.

TTT-60 Stocking Horse

Needed: Sturdy mailing tube, about three feet long
Old socks and rags for stuffing
Embroidery thread for features and felt for ears (if desired)

Description: Stuff sock tightly with rags, fit over end of mailing tube and fasten tightly with string or rubber band. Features may be embroidered and a bridle added if desired. (Better make more than one, one teacher made one for each child for active outdoor horseback riding.)

MISCELLANEOUS USES FOR TRASH

Trash: Contact paper scraps

Uses: Covering storage boxes
Collages

Sources: Parents

Trash: Telephone spools (variety of sizes)

Uses: Spray painted these make good outside tables.

Sources: Local telephone company

Trash: Telephone wire (variety of colors)

Uses: Wire sculpture
Use with styrofoam shapes

Sources: Anyone having a phone put in
Local telephone company

Trash: Wallpaper books

Uses: Plastic coated variety can be used for place mats
Regular paper for collages, the backside for painting paper

Sources: Paint store

Trash: Rugs

Uses: To cozy up the reading corner
As a focus place to gather
Warm up housekeeping area

Sources: Salvation Army
Parents
Friends
Sears and Roebuck

Trash: Bottle caps

Uses: Use in woodworking area
For manipulating and counting
Markers for games

Sources: Any coke machine
Parents

Trash: Broken jewelery

Uses: Collage
Shapes to feel and look at
Colors to sort
Older children can restring beads

Sources: Parents
Friends
Stores

Trash: Egg cartons

Uses:
Paste cups
Cut carton in half for six individual paint cups.
Three-dimensional building
Scissors holder
Sorting

Sources:
Parents
Neighbors

Trash: Shirt cardboard

Uses:
To color or paint on
For flannelboard figures
Homemade books
Backing for collages

Sources:
Parents
Neighbors, friends, etc.

Trash: Toilet tissue and paper towel rolls

Uses:
Tunnels for small cars to go through
Three-dimensional building
Tape together for play binoculars.

Sources:
Parents
Neighbors, friends, etc.

Trash: Plastic detergent bottles
Remove the paper labels in all cases and wash thoroughly.

Uses:
Use for water play toys
Cut down small ones for paste cups
Cut them down for holding frosting

Sources:
Parents
Neighbors, friends, etc.

Trash: Wooden spools

Uses:
Stringing
Color concepts
Size sequencing

Trash: Chockful O'Nuts coffee measures

Uses:
Waterplay
Paste cups
Hold sprinkles for individual cooky decorations.
Shakers (See *TTT-42, Sound Experiences.*)

Sources: Chockful O'Nuts coffee cans

Trash: Wet strength fiberboard beer cases

Uses:
Doll bed, just add a small pillow and blanket.
Storage bins, with child's name. They could be used as cubbies if nothing else is available.

Sources:
Grocery stores
Beer distributors

Trash: Coffee cans

Uses:
Sand pails, punch a hole in each side with a hammer and a nail, put rope through holes, and knot at each end.
Mix paint in cans and store with plastic lids on.
Punch holes in the plastic lid and use as temporary houses for creatures.
Fill with water for "painting" buildings, trees, sidewalks
Cover with contact paper and use for storage

Sources:
Parents
Neighbors, friends, etc.

Trash: Ice cream sticks (Wash used ones with hot water and detergent.)

Uses:
Puppets
Pasting sticks
Icing cookies
Building
Stirring paint

Sources:
Tongue depressors are a good substitute and can be purchased at any drug store
After ice cream treats

Trash:	Buttons
Uses:	Sorting by shape, size or color Stringing Older children might enjoy sewing onto cloth using an embroidery hoop. Markers for games Counting Ordering by size, etc.
Sources:	Often dimestores will carry inexpensive cans full of buttons of all colors, sizes, and shapes. Friends, neighbors, etc.

Trash:	Small boxes and containers
Uses:	Doll furniture Small trucks or cars Houses, garages, etc. Building blocks Putting things inside
Sources:	Parents Neighbors, friends, etc.

Materials: A table or large shelf at child level.

Comments or Cautions: It is also a good idea to provide an exhibit place for things which are to be looked at but not touched. If a child brings in something which is precious to him or if the object which the teacher wants to exhibit is something fragile like a special sea shell or a cocoon, it might be placed on such a shelf.

Although objects at the exploring table can be freely handled, they should be kept at or near the table.

Misc-3 Still Photography

Uses: Social-emotional (self-concept)
Conceptual (various concepts)

Description: Taking pictures of children in the classroom or play yard can be a very effective way of reinforcing concept learning and helping the child to have a more positive and better defined picture of himself. While most children love to be photographed in any pose including the traditional still front view looking directly into the camera, shots showing them in a learning situation or doing something of which they can be proud, for example putting together a difficult puzzle or talking to a visitor from a foreign country, are much better for purposes of enhancing self-concept. Sending a picture of a child home to his parents can be one of the most effective means of communication between home and school.

Pictures taken of learning situations in or out of the classroom can be used for later reinforcement of the original experience--for example putting up pictures on the bulletin board of the fruit salad-making project can lead to a review of the concepts emphasized at the time. A set of pictures on a given topic can be made into a book with appropriate text, or placed on the bulletin board.

Because photographs can be such an effective teaching tool, it is unfortunate that we are often limited by the expense involved. When cost is an important factor, we would suggest that the teacher avoid using color film, Polariod, or an Instamatic-type camera but rather try to use black and white in a 35mm or 35mm half-frame camera to cut the cost per picture. Particularly if she can find an amateur photographer who is willing to develop and print her film at low cost, pictures of the children can be a possibility even in a school on a shoestring budget.

(The Polariod is of course very satisfying to the children in that they see the result immediately and if cost is not a problem, the school may want to purchase a reasonably priced Polariod. Remember that the chemicals used in the processing are dangerous and the children should not handle the materials.)

A very small 35mm camera with built-in light meter can be particularly useful because the teacher can carry it in her pocket and bring it out when she sees something worth taking. By using a very fast film such as Kodak Tri-X, it is possible to get good pictures even indoors without extra lighting or flash bulbs. (Extra lighting is usually not practical to provide and the use of flash bulbs is both disruptive and expensive.)

Materials: Camera and film.

APPENDIX

Forms for record keeping
    Face sheet
    Needs and Plans Sheets
    Language Checklist
    Social-Emotional Checklist
    Permission Forms (medical, field trips, photo)

Developmental record questions

Equipment and supply list

Sources of equipment and supplies

Annotated book list for the nursery school and kindergarten

Some suggested records and their uses

Bibliography for the teacher

FACE SHEET

Name____________________ Nickname______________

Home address______________ Home phone____________

Birthdate________ Sex___

Mother's occupation*__________ Work phone____________

Father's occupation*__________ Work phone____________

Child's doctor______________ Phone______________

Relative or Neighbor
to call if parents
cannot be reached__________ Phone______________

Names of all those who may pick child up from school:

____________________ ____________________

____________________ ____________________

____________________ ____________________

Allergies or other health problems:______________

____

Filled out by:

____

*If child is not living with his own parents, substitute names of those people who are currently responsible for him.

NEEDS AND PLANS--1

LARGE MOTOR NEEDS AND STRENGTHS

General Coordination

Very awkward	Somewhat awk.	Adequate	Very good
____	____	____	____

General Interest

Avoids	Some interest	Adequate	Strong interest
____	____	____	____

General Caution

Very fearful	Overly cautious	Adequate	Somewhat careless	Very careless
____	____	____	____	____

Walking on the Line

Very wobbly	Some balance problems	Frequently off line	Smooth, mostly on line
____	____	____	____

Walking Boards

	Very wobbly	Balance problems	Steps off	Walks smoothly
4"	____	____	____	____
2"	____	____	____	____
	Refuses	Wants hand	Hesitant alone	Confident
6"	____	____	____	____

Jumping off Chair

Refuses	Wants hand	Alone cautious	Confident	Wild jump
____	____	____	____	____
Sits, slides	Steps off	Jumps one foot ahead	Two-footed jump	
____	____	____	____	

Jumping over Lines

Steps	One-foot jump	Feet togeth. short	Adequate
____	____	____	____

Running			Hopping		
Awkward	Somewhat awkward	Smooth adult	Cannot	2 or 3 only	Hops well
____	____	____	____	____	____

Skipping			Stair Climbing		
Can't	Gallops	True skip	Does not alternate	Alt. up only	Alt. both
____	____	____	____	____	____

Ball Throwing

Wild	Gen. direc.	To catcher	Under 6'	Over 6'
____	____	____	____	____

Ball Catching

Fearful	Usually misses	Often misses	No accom.	Uses body	Uses hands
____	____	____	____	____	____

Child________________________________

Age______ Date________ Teacher__________

SUMMARY OF PLANS

LARGE MOTOR PLANS

NEEDS AND PLANS--2

SMALL MOTOR NEEDS AND STRENGTHS

General Coordination

Very awkward	Somewhat awk.	Adequate	Very good
___	___	___	___

General Interest

Avoids	Some interest	Adequate	Strong interest
___	___	___	___

Cutting

Can't cut	Slashes only	Choppy	Fairly smooth	Smooth on line	R L Alt.
___	___	___	___	___	___

Buttoning and Unbuttoning

Cannot	Awkward	Adept
___	___	___

Zipping and Unzipping

Awkward cannot start	Adept cannot start	Adept and starts
___	___	___

Drawing Grip

Hammer	Crude opposition	Adult	R L Alt.
___	___	___	___

Drawing Control

Very awkward	Fair	Adult
___	___	___

Drawing Position

Top	Tip	Inter.
___	___	___

INDIVIDUAL TESTING SESSION

Counting

Objects counted____ Rote counting____

Body Parts (N: Names, R: Recognizes)

Eye___ Ear___ Nose___ Mouth___ Arm___ Hand___

Fingers___ Leg___ Foot___ Toes___ Elbow___

Wrist___ Shoulder___ Ankle___ Cheek___

Sorting

Forms matched____ Pictures sorted____

Colors (N: Names, R: Recognizes, M: Matches)

Red___ Blue___ Yellow___ Orange___

Green___ Purple___ Black___ White___

Gray___ Brown___ Tan___ Pink___

Copying Forms (attach sheet)

Circle	Cross	Square	Triangle	Diamond
___	___	___	___	___

OTHER CONCEPTS (Use back as necessary.)

Child________________________

Teacher________________________

SMALL AND PERCEPTUAL-MOTOR PLANS

CONCEPT PLANS

INTERESTS, STRENGTHS, AND OTHER IMPORTANT INFORMATION

NEEDS AND PLANS--3

Child ____________________

Teacher ____________________

SOCIAL-EMOTIONAL

(Refer to long form of checklist as you rate. Add brief notes to give more complete picture.)

	Definitely needs help	Could use help	Adequate	Strength
Initiation of Activity				
Attention Span				
Curiosity				
Frustration Tolerance and Problem Solving				
Producing and Creating				
Dramatic Play				
Relationship with Teacher				
Limits and Routines				
Interaction with Children (List Names)				
Rights of Self and Others				
Sharing and Taking Turns				
Self-concept				

SOCIAL-EMOTIONAL PLANS

LANGUAGE

(Refer to long form of checklist as you rate.)

	Definitely needs help	Could use help	Adequate
Understanding			
Amount of Language Use			
Use of Sentences			
Intelligibility			

Language spoken at home: ____________________

LANGUAGE PLANS

LANGUAGE CHECKLIST

	Definitely needs help	Could use help	Adequate
Understanding[1]	Very often does not understand what is said to him.	May have trouble understanding if not spoken to carefully and directly or in simplified language.	Rarely fails to understand.
Amount of language use[1]	Speaks little or not at all.	Answers direct questions or makes requests only.	Initiates conversation and uses speech socially.
Use of sentences[1]	Uses only one or two words at a time (or no language.)	Three-year-olds: Uses mostly phrases. Four- and five-year-olds: Uses only simple sentences.	Three-year-olds: Frequently uses complete sentences. Four- and five-year-olds: Frequently uses more complicated sentences.
Intelligibility[1]	Frequently difficult to understand.	Occasionally difficult to understand.	Speech usually clear and audible.

[1] If child's first language is not English, note skills in both languages.

SOCIAL-EMOTIONAL CHECKLIST

Definitely needs help	Could use help	Adequate	Strength
1. INITIATION OF ACTIVITY			
Rarely initiates activities or has trouble beginning.	Frequently spends long period before initiating or initiates in only one or two activities.	Occasionally needs help in initiation; accepts it readily.	Always involves self in a variety of constructive activities.
2. ATTENTION SPAN			
Rarely finishes task, moves rapidly from one to another.	Usually needs encouragement to stay with task until complete.	Can usually remain with task appropriate to age level until it is finished.	Can stay with a chosen activity for very long periods, even returning the next day.
3. CURIOSITY			
Shows little or no interest in anything new.	Can be intrigued by really exciting things but often uninterested.	Actively explores any new things in the room.	Interested in new ideas, words, and relationships as well as things.
4. PROBLEM SOLVING AND FRUSTRATION TOLERANCE			
Rarely seeks to solve problems on his own; unable to tolerate any level of frustrations; reacts by giving up, crying, or aggression.	Sometimes fails to solve problems on his own; or sometimes reacts to moderate frustration by giving up, crying, or aggression.	Usually tries hard to solve problems and accepts failure well; but if severely frustrated, may behave immaturely.	Is inventive in solving practical problems. If completely blocked, is mature in behavior.
5. PRODUCING AND CREATING			
Does not enjoy productive* activities.	Productive* rarely creative.*	Often creative* sometimes innovative.*	Highly creative* and innovative.*
6. DRAMATIC PLAY			
Never takes part in dramatic play.	Rarely takes part in dramatic play.	Frequently "pretends" with regard to roles, objects, and situations.	Highly creative in dramatic play.

*For definitions see *Producing and Creating, Diagnosis.*

Definitely needs help	Could use help	Adequate	Strength

7. RELATIONSHIP WITH TEACHER
(Note if different with different teachers)

Continually seeks help, contact, or attention; frequently behaves aggressively; or ignores teacher.	Often requires help, contact, or attention; seeks attention through silly or wild actions; or is occasionally aggressive toward teacher.	Warm relationship, and asks for help or attention only when appropriate.	Self-sufficient, may volunteer help or support to teacher when appropriate.

8. ACCEPTANCE OF LIMITS OR ROUTINES

Continually tests limits and routines; or is compulsive about routine (anxious at deviation from schedule).	Frequently tests limits, fails to follow routines, or is somewhat anxious about changes in routine.	Usually conforms to limits and routines, can deviate easily when appropriate.	Understands reasons for rules and obeys intelligently even when the teacher is not present.

9. INTERACTION WITH OTHER CHILDREN

Avoids other children most of the time.	Often rejects advances of others or plays more alone than with others.	Often initiates play with other children and usually accepts initiation from others.	Initiates cooperative play regularly.

10. RESPECT FOR RIGHTS AND NEEDS OF SELF AND OTHERS

Completely unable to protect self, typically bosses others, frequently aggressive, or disrupts others in play.	Frequently unable to protect self, manipulates others (bossy) on occasion, or sometimes aggressive.	Respects rights of others; may hit to protect self, but not without reason.	Respects rights of others but protects own interests, usually verbally. Can take both leader and follower roles.

11. SHARING AND TAKING TURNS

Never shares. Always tries to be first.	Rarely willing to share. Can wait only briefly for turn.	Usually willing to share if has enough. Will take turns.	Is inventive in solving problems related to sharing or play material.

12. FEELINGS ABOUT SELF

Frequently has doubts or is negative about himself and the way others feel about him; often says he can do something he cannot; or refuses to try something he can do.	Seems somewhat unsure of own worth and acceptance by others, or somewhat unrealistic about his abilities.	Has positive feelings about himself and believes that other people like him. Realistically evaluates his strenghts and weaknesses.	

PERMISSION FORMS

Medical Treatment: In case of emergency every effort will be made to contact parents and the family doctor, but sometimes this is not possible and immediate treatment is necessary.

In case my child is hurt or becomes seriously ill at school, and it is not possible to reach me or our family doctor, he or she may be treated by another doctor or at the emergency room of the hospital.

____

Parent or Guardian

Field Trips: Field trips and walks are a regular and carefully supervised part of our program. Walks in the neighborhood are often taken without previous planning, but parents will always be notified before each trip when children are to be taken by car or bus.

My child may leave the school for walks or field trips.

____

Parent or Guardian

Photography: Photos and movies are sometimes taken for use within the school with the children. Occasionally these or other pictures may be used for newspaper stories about the school or for educational purposes (such as textbooks). Whenever possible this use will be cleared with parents, but this is sometimes difficult or impossible in cases where pictures contain large groups of children or are used several years after they are taken.

My child's picture may be used for publications or newspaper stories about the school or for educational purposes.

____

Parent or Guardian

DEVELOPMENTAL RECORD QUESTIONS

Note to Directors: The following questions are only suggestions; you may want to add others. In every case the interviewer should be clear on just why a particular question is being asked, and should not press for answers if the parent seems reluctant or resentful. (For example the items asking for names of friends and pets may seem trivial; we ask because we want to understand as much as possible when the child talks about his interests and concerns.) The developmental record differs from the face sheet where essential information for the child's health and safety is recorded in that the school must insist on having the face sheet filled out before the child enters. In setting up your own developmental record form, leave plenty of space for writing answers and comments.

Name______________________________ Birthdate__________ Sex_____

Name of person giving information________________ Name of interviewer_________________

Family

List names, relationship, and ages of all persons living in the home with the child now. (Include other relatives and roomers as well as immediate family. If child is not presently with own family, explain situation.)

Ask as appropriate:
- If either mother or father is deceased, date of death and child's reaction.
- If mother or father is not in home, how often does child see her or him?
- How does he react to separation?
- Are there brothers or sisters not in the home? How often does child see them?

How often does child see grandparents?
Which family members is he closest to?
How does he get along with brothers and sisters?
How often is he cared for by baby-sitters?
How does he act when his mother leaves?
Language spoken at home:
Religious preference: (optional)

The Child at Home

What kind of house (single family, double, apartment, etc.) does child live in?
Whom does he share his room with?
Does he play outside? Where? How often?

What kind of things does he particularly like to do? Inside? Outside?

How much time does he watch TV? What does he watch?

Does he have special friends? Names? How does he get along with them?

Does he have any pets? Kind and names, if any?

Health and Development

Did he have health problems as an infant?

Was he a nine-month baby? How much did he weigh? Was his birth easy or hard?

Was he an easy or troublesome baby and toddler? If troublesome, how?

Was he early or late in walking? (Age if mother remembers)

Was he early or late in talking? (Age if mother remembers)

Has he had any serious illnesses or accidents in his life?

Does he get tired easily? How does he show it?

Have there been any happenings in his life or that of his family which have been particularly upsetting to him? (e.g. separations, deaths)

Does he have any habits such as thumb-sucking, nail-biting, etc? (Discuss)

Does he seem to prefer right or left hand yet? (Which?)

Routines

Eating:

- Have you had any feeding problems? Are there any now?
- What do you expect in regard to tasting things, cleaning his plate, etc?

Elimination:

- Did you have any problems with toilet training?
- How often and under what conditions does he have accidents now?
- What words does he use when he wants to use the toilet?

Sleeping:

- Usual bedtime and waking up time?
- Does he take naps? How often and how long?
- Are there any problems with going to bed or with sleeping? (Discuss) How does mother handle problems?
- Does the child have any particular thing he sleeps with or bedtime ritual?

General

Generally what are your child's strengths--the things you like best about him?

Are there things about him that you hope will change?

EQUIPMENT AND SUPPLY LIST

(For group of 15 to 18 preschool children)

This list is provided as a help for the director or teacher setting up a new classroom. She will, of course, want to use it only as a base for making up her own list, since the situation for every class will be different, depending on the age and number of children, physical facilities, and the philosophy of the teacher. Equipment and supplies for a kindergarten would vary even more, but this list might still be used as a starting point. (For further discussion see *Equipment, Choosing and Ordering,* in Volume I.)

Two samples are given, one for a very low budget, the other for a high budget. For the low budget it has been suggested that many items be homemade, but those which require skill in carpentry have been marked with an asterisk. It is assumed that all items on the high budget list would be purchased. However, in a real situation, the decision as to whether each item is to be made or bought would depend on the money, skills, and time available. The word "same" on the high budget side indicates that the item is the same as on the low budget side, except for being purchased rather than homemade, in some cases. For science and cooking equipment, see Chapters 16 and 18, on science and food preparation activities.

Classroom Furniture

Low budget	High Budget
Three to five tables, cut down from secondhand kitchen tables. Size depends on type of program.	Three to five lightweight tables, including one or two quarter-circle or trapezoidal tables for small groups.
Small chairs, one for each child and teacher, plus two for visitors. Secondhand or mail order house (Sears or Wards).	Lightweight stacking chairs, 10" for threes, 12" for fours, 14" for fives.
Adult-size rocker and two adult-size folding chairs, secondhand or donated.	Same
Hook on wall for each child, homemade seat below with space under for boots, shelf above for hats and mittens.	Locker for each child. (If two groups, morning and afternoon children can share a locker.)

Low budget	High budget
Low storage for blocks, art supplies in daily use, and table toys. Secondhand or homemade shelves (but plan carefully for adequate storage of each item).	Cabinets for specialized storage which can be closed and locked, on wheels if desired.
Teacher storage (closed or high) in room for frequently used materials. (See *Storage,* in Volume I.)	Same
Book storage and display, secondhand bookcase with space on top for display, and/or pegboard with book display hardware on wall.	Free standing, movable book display rack, plus book shelves.
Cots and blankets (all-day program).	Same
Dividers for sleep room, homemade from pegboard or tri-wall, wooden feet.	Same (purchased new)

Outdoor Equipment

Walking boards, homemade, all with braces on ends; one 6" x 6', one 10" x 6', one 12" x 6', and two 4" x 6' with two center cleats for use as seesaws. (See *Walking Boards, Construction,* in Volume I.)	Same (purchased new)
Sawhorses*, sometimes called "nesting bridges", homemade, all with extra cross pieces for climbing; two 12" high, two 18" high, and two 36" high.	Same (purchased new)
Ladder, 6' long, cut down from discarded adult ladder.	Same
Balance beam, 2" x 6', homemade, for fours and fives only.	Same (purchased new)

Low budget	High budget
(Optional) Set of two-part stairs*, homemade, used pushed together or apart with a walking board. (High priority for a group of young children or if classroom building has no stairs.)	Same (purchased new)
(Optional) Old car with doors and wheels removed for safety; or old boat checked for splinters and sharp metal pieces, donated.	Same
(For outdoor dramatic play) Large wooden crates, tile pipes, tree trunks with large branches still attached, and ropes strung between trees or between fence and posts for hanging blankets to make houses.	Same
Fuller playdome, purchased.	Junglegym with ladders, platforms, etc; or a combination of climbing and dramatic play structures.
Climbing rope, swings with tire or leather seats, and a rope ladder; hung from trees, simple wooden frame, or a donated metal frame from a discarded commercial swing set.	Same (or swing set purchased new)
Two wagons, two wheelbarrows, and four tricycles. (If donated, must be in safe condition. Omit trikes if no suitable surface for riding.)	Same
Sandpile or pit and assorted sand toys, donated.	Large sandbox with cover, and assorted sand toys.
Small bamboo rakes, plastic snow shovels, watering cans and gardening tools as appropriate.	Same.
	Additional large motor equipment as desired, for example, two-child swing, wooden traffic signs, rock and row, three-way ladder, net climber.

Indoor Large Motor Equipment

Low budget	High budget
Old mattress or 2" thick poly-foam sheet for tumbling.	Two covered tumbling mats.
Cloth tunnel, *inflammable*, purchased.	Folding or demountable jungle-gym or tunnel and ladder set.
Four to five balls of varying sizes, purchased from dimestore.	Same
Large variety of bean-bags. (See *TTT-13, Bean-bags.*)	Same
Rocking boat*, homemade or purchased. (High-priority item for groups of young children.)	Same
Wooden box or platform on wheels for moving blocks, furniture, or people; homemade.	Platform truck and box on wheels.
Large riding trucks, tractors, etc., donated. (Check for sharp edges and loose wheels.)	Four large riding toys, wooden, including a crane.
Two rigid, sturdy plastic toddler swimming pools for sand and water play; buckets for filling; and sand and water toys, donated.	Two water-sand tables with drains; buckets; and sand and water toys.
Woodworking bench cut down from sturdy old table, cross-braced for steadiness.	Commercial woodworking bench.
Good quality table vises and tools. (See *LM-34, Woodworking.*)	Same
48 to 60 large cardboard blocks.	Large plastic or wooden blocks.
One full set unit blocks (about 350). High priority. If cost is too great, use sanded soft-wood scraps and buy a few good hardwood blocks each year.	Large number of unit blocks, number and type depending on age of class. (See the Childcraft Catalogue for a suggested assortment.)
Toys to use with blocks, dime-store cars and trucks, homemade play people, etc.	Small wooden cars, trains, boats, trucks, rubber play animals and people.

Low budget	High budget
Stuffed pillow punching bag. (See *TTT-14, Punching Bag.*)	Same
	Quoits or rubber horseshoes, for fours and fives.

Family Play Equipment

Sturdy child-size refrigerator, stove, and sink, homemade*. For very low budgets improvise from tri-wall or cardboard boxes and replace as necessary.	Same. Add kitchen cupboard, ironing board, iron. (all purchased new)
Child-size table and chairs (nice if slightly smaller than regular classroom furniture, or brightly painted).	Same
Child-size bed*, homemade, doll carriage, blankets, and pillows.	Same (purchased new)
Variety of dolls, including washable ones, babies, boys, girls, white, and black.	Same
Unbreakable full length mirror. (Purchased--see the Childcraft Catalogue)	Unbreakable three-way mirror.
Pots, pans, plastic dishes, cans, boxes with labels, plastic food, etc., donated. (See *TTT-50, Ideas for the Housekeeping Corner.*)	Same
Adult-size dustpan, brooms, dust mops, and wet mops with cut off handles, donated.	Same
Variety of dress-up clothes, including men's clothing and props for community workers, donated. (See *TTT-52, Dress-Up Clothes.*)	Same

Low budget	High budget
Shoe rack or shelves for shoes; chest of drawers or foot locker for miscellaneous clothes storage; and hooks on wall for hanging clothes, (or a clothes rack for five-year-olds; see *TTT-53, Clothes Rack*).	Same
Stackable dollhouse made from sturdy cardboard boxes; good wooden bath and kitchen furniture--others may be improvised; and dolls homemade from clothespins or pipe cleaners and cloth. (See *TTT-25, Dollhouse*.)	Same (purchased new)
Two plastic telephones.	Two wooden telephones.
Homemade puppets and secondhand piano bench or narrow table for stage. (See *TTT-19* to *TTT-24, Puppets*.)	Variety of family and animal puppets; and combination puppet theater-grocery store-post office folding screen. (See the Community Playthings Catalogue.)
Wooden cash register.	Same

Art Equipment

Two homemade double easels. (See *TTT-7, Pegboard Easel*.)	Two double easels or four wall easels.
Orange juice cans in six-pack carriers. (See *TTT-8, Six-Pack Paint Case*.)	Two dozen nonspill paint pots.
Brushes: one dozen 3/4", one dozen 1/2", six 2" or 3" (for painting with water), and one dozen smaller brushes to use occasionally with four- and five-year-olds.	Same
Wires strung on wall and clothespins for hanging paintings to dry.	Folding rack for drying.

Low budget	High budget
Homemade plastic aprons or old shirts cut down with plastic panel stitched to front.	Ten or twelve waterproof aprons.
Scissors: eight pair good, blunt children's scissors, some left-handed; two pair child-size pointed scissors not for use by three-year-olds; and one pair good adult scissors.	Same
Two easy-to-operate staplers.	Same
One easy-to-operate paperpunch.	Same
Crayons, large for three-year-olds, both sizes for four- and five-year-olds.	Same
Magic markers, nontoxic.	Same
Paint: dry tempera paint and homemade finger paint. (See *A-9, Finger Painting.*)	Ready mixed tempera and purchased finger paint.
Chalk, white and colored.	Same
Paper: shelf paper for finger painting, 18" x 24" pads of newsprint, construction paper, and origami paper.	Same, except for purchased finger paint paper. In addition, better quality paper for coloring and special paper such as tissue, metallic, and oatmeal paper.
	Paper cutter, for teacher's use only.
Potter's clay and covered jar; 8" x 10" masonite boards for clay.	Same
Flour and salt for playdough.	Same
Food coloring (bakery size).	Same
Glue: Elmer's glue in squeeze bottles (refill from gallon sizes) and *nonpoisonous* school paste.	Same
Other arts and crafts materials as needed or donated.	Same

Table Toys

Low budget	High budget
Puzzles and formboards, homemade and purchased from dimestore, a variety in a range of difficulty. (See *T-1, Puzzles and Formboards.*)	Wooden puzzles and storage racks.
Nail boards and pegboards, homemade. (See *T-3, Pegboards* and *TTT-11, Rubber Band Board.*)	Same
Nuts and bolts, plastic and metal.	Same
Strings and beads, large for threes, smaller sizes for fours and fives.	Same
Homemade lacing and sewing boards, and hoops and materials for embroidery.	Same
Lego, jumbo size for threes, regular for fours and fives, donated if possible.	Same
Table blocks from wood scraps.	Purchased table blocks.
Nesting cans in varying sizes and colors, homemade. (See *TTT-39, Nesting Cans.*)	Purchased stacking towers, easy and hard.
Shape sorting box, homemade. (See *TTT-43, Shape Box.*)	Same (purchased new)
Picture dominoes, homemade. Add regular dominoes for fours and fives.	Same (purchased new)
Variety of homemade lotto games. (See *TTT-37, Lotto Construction.*)	Same (purchased new)
Cubical pattern blocks, purchased.	Same
Flannelboards, one large and five or six small, homemade, with homemade and purchased figures. (See *TTT-12, Flannelboard.*)	Same (purchased new)
Sandpaper and vinyl wallpaper letters and numbers, homemade.	Same (purchased new)

Low budget	High budget
Sequence games, homemade.	Same (purchased new)
Color counting cubes, purchased.	Same
Counting sticks.	Same
	Mosaic blocks
	Counting frame.
	Landscape pegboard or wooden village.
	Four magnetic boards with letters, numbers, and forms.

Add a variety of homemade or commercial small motor, number, copying, classifying, and group games depending on the age and needs of the children. (See Chapter 14, Table Activities; Chapter 21, Trash to Treasures; or a good preschool supply catalogue for ideas.)

Books

Paperbacks and library books. Have at least 20 to 30 books in the classroom at all times and change frequently.	Hardcovers.

Music Equipment

Homemade musical instruments. (See *TTT-41, Rhythm and Musical Instruments.*)	Primary instrument set with cart, bongo drum, small xylophone (toy but good quality), and autoharp or guitar.
One good phonograph and as many useful records as possible.	Teacher's phonograph and records; and children's phonograph with two or three pairs of earphones and children's records.

SOURCES OF SUPPLIES AND EQUIPMENT

Listed below are a number of companies which sell a broad selection of supplies and equipment for preschools and kindergartens. Some specialize in this age level, others also sell materials for grade schools and above. In asking for a catalogue specify that you are ordering for a school for young children, since some companies have separate catalogues for different age levels, or more complete catalogues for school use. We have tried to include a number of such firms at various points around the United States since it is useful to have one major source of equipment and supplies as close to the school as possible in order to save on shipping costs. (Inquire of other teachers to see if there is such a good general school supply house near you which we have not listed.)

Also listed below are more specialized firms which are particularly good for certain kinds of equipment or materials or which have unusual items.

It has, of course, not been possible to include all companies which provide materials for this age level. In addition, we have not ordered from all of those listed so we cannot give information as to the quality of service which they provide. Probably you will want to experiment to find which companies give good service. It should also be noted that most catalogues will list many items of questionable educational value, so that teachers must always use judgment in selection.

American Seating Company. P.O. Box 1141, Syracuse, N.Y. 13201.

Broad selection of school furniture, equipment and supplies. All age levels.

Angeles Nursery Toys. P.O. Box 29103, Los Angeles, Cal. 90029.

Exceptionally well made tricycles and wagons for school use.

Bowmar Co. 622 Rodier Drive, Glendale, Cal. 91201.

Records, books and filmstrips emphasizing emotional and cognitive goals for young children.

Carolina School Supply Co. P.O. Box 2185, Charlotte, N.C. 28201

Broad selection of school furniture, equipment and supplies. All age levels.

Child Life Play Specialties. 1640 Washington St., Holliston, Mass. 01746.

Primarily outdoor and large motor equipment, including several imaginative items not sold elsewhere.

Childcraft Educational Corporation. 964 Third Ave., N.Y., N.Y. 10022.

Carries one of the most complete lines of equipment and supplies for preschools and kindergartens. Many items especially made for this company; wide range of arts and crafts supplies for this age.

Children's Music Center. 5373 W. Pico Blvd., Los Angeles, Cal. 90019.

Records, books, and musical instruments, including Spanish books and records.

Community Playthings. Rifton, N.Y. 12471.

Very well constructed furniture and equipment for young children, also smaller items such as puppets and dolls. Especially good for folding junglegyms, playhouses and puppet theater-stores for schools with limited space; also many large-scale wooden riding toys.

Constructive Playthings. 1040 E. 85th St., Kansas City, Mo. 64131.

Broad selection of school furniture, equipment, and supplies. All age levels.

David C. Cook Publishing Co. 850 No. Grove, Elgin, Ill. 60120.

Inexpensive teaching pictures on a wide variety of topics.

Developmental Learning Materials. 7440 Natchez Ave., Niles, Ill. 60648.

Excellent selection of materials for small motor, perceptual, and cognitive development.

Dick Blick Co. P.O. Box 1267, Galesburg, Ill. 61401.

Standard preschool equipment and supplies. Note especially sturdy metal climbing equipment, folding aluminum tables, and benches for outdoor use.

Edmund Scientific Co. 800 EDCORP Bldg., Barrington, N.J. 08007.

Scientific and mathematical equipment of all kinds. (Materials such as magnets, microscopes, lenses, geometry forms; not intended for use by any particular age group.)

Educational Reading Service. 320 Rt. 17, Mahwah, N.J. 07430.

Books, records, filmstrips, and slides on many topics. A special catalogue, "Stepping Stones," lists materials about many cultures, both within and outside the United States.

Educational Teaching Aids (Division of A. Daigger). 159 W. Kinzie St., Chicago, Ill. 60610

Montessori books and equipment and standard school materials, with emphasis on cognitive development.

Fidelity Products. 705 Pennsylvania Ave. S., Minneapolis, Minn. 55426.

An office supply company which sells many items useful in the preschool, such as tote boxes, storage boxes for small motor materials, inexpensive files.

Hammett's School Supplies. 165 Water St., Lyons, N.Y. 14489; Hammett Place, Braintree, Mass. 02184; Box 4125, Lynchburg, Va. 24502; 48 Canal St., Boston, Mass. 02114; 2393 Vauxhill Rd., Union, N.J. 07083.

Broad selection of school furniture, equipment, and supplies. All age levels.

Ideal School Supply. Oak Lawn, Ill. 60453

Attractive materials for cognitive and perceptual development, some intended for handicapped.

Nasco. 901 Janesville Ave., Fort Atkinson, Wis. 53538, and Modesto, Cal. 95352.

Broad range of school equipment and supplies, with emphasis on early years.

Novo Educational Toy and Equipment Corp. 124 W. 24th St., N.Y., N.Y. 10011.

Broad range of school equipment and supplies, with emphasis on early years. Note especially in-scale rubber animals.

Playground Corporation of America. 24-29 40th Ave., Long Island City, N.Y. 11101.

Imaginative, permanent metal equipment for playgrounds for children of all ages.

Scholastic. 902 Sylvan Ave., Englewood Cliffs, N.J. 07632.

Paperback classics, sturdy teaching pictures, filmstrips, and records, some foreign language. Of interest, draw-your-own filmstrip kits.

Schwarz, F.A.O. Fifth Ave. and 58th St., N.Y., N.Y. 10022.

Standard toys for all ages, good selection of books and records.

Sears Roebuck and Montgomery Ward toy catalogues (or other mail order houses).

A lot of junk, but usually fast service for items which they do carry. See also regular catalogue for the lowest prices on nursery-size chairs.

Shindana Toys. 6107 S. Central Ave., Los Angeles, Cal. 90001.

Imaginative and attractive black dolls.

Skill Development Equipment Co. 1340 N. Jefferson, Anaheim, Cal. 92806.

Unusual large motor equipment for indoors or outdoors and classroom furniture (mostly foam or inflatable). Some items especially good for handicapped.

Society for Visual Education. 1345 Diversey Parkway, Chicago, Ill. 60614.

Filmstrips, 8mm loops, slides, study prints, educational records. Especially good materials for study of other cultures.

Three-to-Seven Playways. 1233 County Rd. E., St. Paul, Minn. 55112.

Broad range of school equipment and supplies, with emphasis on three to seven.

Timberform. 1727 N.E. 11th Ave., Portland, Ore. 97212.

Imaginative, permanent wood equipment for playgrounds for children of all ages.

Tri-Wall. 1 DuPont St., Plainview, N.Y. 11803.

Heavy cardboard and directions for its use in making low-cost school furniture and equipment.

Ward's Natural Science Establishment. P.O. Box 1712, Rochester, N.Y. 14603 or P.O. Box 1749, Monterey, Cal. 93942.

Science materials of all kinds, intended for school use by children of all ages.

Weston Woods. Weston, Conn. 06880.

Motion pictures, filmstrips, records, books for preschool and early elementary. Many movies and filmstrips are based on classic children's books.

ANNOTATED BOOK LIST FOR THE NURSERY SCHOOL AND KINDERGARTEN

Below we have listed books which we feel are particularly useful for the preschool age level. After each we have described the purposes for which the teacher might want to use it and the types of concepts which it presents, as well as the appropriate age level. If the book is not suitable for reading to a large story group of 12-15 children, this has been indicated. The notation "large group" of course means that the books is suitable for large and small groups and individual use.

Almost all of these books are currently in print and can be ordered through book stores; a very few are out of print but should be available through any children's library. If a book in print is not listed here, it may mean that we have looked at it and decided that another book served the same purpose more effectively; it may also simply mean that we have not seen the particular book. The number of children's books in print is such that it was impossible to look at every one.

Some of the books included in this list are now available in paperback. We have not annotated books available in paperback form only, such as those sold in supermarkets, because it is not often possible to order them; one must just keep a close eye on the dimestore or supermarket racks to find good ones. The quality is improving rapidly, but books worth having are still in the minority. Try to avoid the classic folk tales, Disney stories, or the standard cat and dog stories since these will often be the books children have at home. Instead, concentrate on those which have good illustrations, focus on some cognitive area, or have positive social-emotional content. Two kinds of paperbacks which can be ordered are Scholastic paperbacks, ordered through school system or direct from Scholastic Magazines, Inc., Englewood Cliffs, New Jersey 07632 (ask for a catalogue), and Viking Seafarer reprints of standard Viking books, which can be ordered through bookstores. However, it should be noted that these books really are *paper*backs, not books with cardboard covers like those from the dimestore, and that their prices are double, triple, or even four times the prices of dimestore books. Therefore for the hard usage they will get in a school, it may be better to invest in the regular edition. (In the case of Viking books, the hardcover version may now be available only to nonprofit schools and libraries; check with the local public school librarian for help in ordering.)

Aliki, *Keep Your Mouth Closed, Dear.* Dial Press.

A funny story about an alligator who eats everything in sight including hats and alarm clocks. Very good for fact-fantasy discussion or just for enjoyment. Large group. (3-5)

Amoss, Berthe, *By the Sea.* Parents Magazine Press.

A small book without text and with simple line illustrations in red and black. A small boy is carried away by his kite and rescued by his dog. Good for fact-fantasy, language production, and perception of detail. Small group. (3-5)

Andrew, Martin, *Forest Animals, Water Life, Wild Animals.* Platt.

The illustrations in these books, while large and colorful, are not as clear as in some of the other animal picture books. However, they show a range of animals often not covered by animal books for this age. Reference. (3-5)

Anglund, Joan Walsh, *A Friend Is Someone Who Likes You.* Harcourt, Brace.

A tiny book with somewhat unclear illustrations, but good for using in a one-to-one situation with a child who feels that he is without friends or who has trouble making friends.

____________, *Cowboy and His Friend.* Harcourt, Brace.

A day in the life of a boy and his imaginary friend, a bear. Particularly good for fact-fantasy discussions because the bear is printed in a different color and is transparent. Small group. (3-5)

Ayer, Jacqueline, *A Wish for Little Sister.* Harcourt, Brace.

In the course of deciding what she wants for her birthday, Little Sister shows the reader the production of silk and life in Siam. The sketches are delightful but not clear enough for reading to a large group. (4-5)

____________, *NuDang and His Kite.* Harcourt, Brace.

A little boy loses his kite and in the course of finding it tells children about life in Siam. Sketches are similar to those in *Little Sister.* (4-5)

Bannon, Laura, *Red Mittens*. Houghton Mifflin.

Simple story of a little boy who lost his mittens and the animals who helped him to find them. Uses the terms "high," "low," "in the middle," "beside," "in front of" and "behind." Pictures not so good for reading to a group of any size, but good for one child or a small group where teacher wants them to look for detail. (3-4)

Beim, Jerrold, *Country Mailman*. William Morrow.

A little boy wants to receive letters from someone. Finally he does when he helps the mailman get through. Good for community workers, can be read to a group. (4-5)

Bemelmans, Ludwig, *Madeline, Madeline's Rescue*, and *Madeline in London*. The Viking Press.

The stories about Madeline, a very independent little French girl, are classics. The sketches of Paris, London and the French countryside are large and clear and the story is in rhyme. These are a good introduction to foreign cultures, good for reading to a group. (Some are available from Scholastic or Viking Paperbacks.) (4-5)

Beskow, Elsa, *Pelle's New Suit*. Harper & Row.

This book follows the making of a Swedish boy's new suit from the shearing of a lamb to the wearing of the suit. It is a very simple story but introduces the ideas of making clothing, of foreign places, and the historical past. Good, clear illustrations for reading to a group. (4-5)

Binzen, Bill, *Rooftop Hogi*. Doubleday.

In the story a boy flies over New York City (pictures of the silhouette superimposed on photographs). At the end it is implied that he might have been dreaming. Good for fact-fantasy and especially interesting for children who live in New York City, but it is important to be *sure* children understand that people cannot really fly without airplanes. Large group. (4-5)

Bonsall, Crosby, *The Case of the Hungry Stranger*. Harper & Row.

The story of four boys who found the thief of a blueberry pie. Amusing, good for reading aloud to a group. Integrated. (Not all the books in the series are as funny as this one so read before you buy.) (4-5)

Bourne, Miriam Ann, *Emilio's Summer Day*. Harper & Row.

A little boy in the central city tries to find something to do on a *very* hot summer day. Finally a street cleaning truck comes by to everyone's excitement. Large group. (4-5)

Branley, Franklin, *Mickey's Magnet*. Crowell.

Illustrated with cartoon-like line drawings, this is an excellent book to read before and after experiences with magnets. Large Group. (4-5)

Brenner, Barbara, *Barto Takes the Subway*. Knopf.

The adventures of Barto as he travels alone on the subway are recorded in large black and white photographs. Best for children who have had the experience of riding on the subway themselves or for fives. Large group. (5)

____________, *The Five Pennies*. Knopf.

A little boy sets out to spend five pennies and gets a pet in the process. Simple illustrations and text (intended as an easy reader) and a good introduction to concepts of money and buying. Mature 3's-5.

Bright, Robert, *I Like Red*. Doubleday.

A little girl with red hair looks for other things that are red. Good for concepts of geography such as hill, pond, farm, color (red), feelings about the self. Very simple text, read to a group or look for detail with a few children. (3-5)

Brown, Margaret Wise, *Two Little Trains*. William R. Scott.

An extremely simple rhythmical story about two little trains going west. Particularly good for getting children to look at and describe pictures since in each one two children are doing something not related in the text. Concepts of weather and geography. Large group. (3-5)

____________, *Wheel on the Chimney*. J. B. Lippincott.

Somewhat abstract but beautiful colored illustrations of the migration of storks from Africa to Hungary. Geography and foreign cultures. Large group. (5)

____________, *The Noisy Books (Indoor, Seashore, City, County, Summer, Winter, Quiet)*. Harper & Row.

This group of books tells about a little dog named Muffin who is placed in various situations in which he cannot see but can only hear and has to make guesses about his environment. The books are excellent for auditory discrimination, and for different concepts. The stories hold the attention of children well and are good books to read with an immature or inattentive group. (2-5)

____________, *Shhhhsh Bang (A Whispering Book).* Harper & Row.

A little boy lives in a town where everyone whispers until he makes things come to life with a bang. Good for auditory discrimination, holds a group well. (3-5)

____________, *The Little Fur Family.* Harper & Row.

A very simple story of the little fur child's day in the woods and his family. Nothing very much happens, but there is a strong feeling of comfort and warmth. Read to one child or two or three who seem particularly to need feelings of security, or to discuss fact-fantasy. Too small in format for a group. (3-5)

____________, *Goodnight Moon.* Harper & Row.

A very simple listing by a little child-rabbit of all the things he is saying goodnight to. Use with group for household objects, times of day, astronomy. Use with one or two children for picking out details in the pictures. (2-3)

____________, *The Runaway Bunny.* Harper & Row.

A little bunny-child decides to run away and disguises himself as a whole series of animals or objects, but his mother comes after him and always finds him. Good for helping children overcome fears of being abandoned and excellent for perception of detail, in that the bunny is always hidden and must be found. Also fact-fantasy discussion. Group or individual. (2-5)

Buckley, Peer and Jones, Hortense, *Five Friends at School.* Holt, Rinehart and Winston.

This book is intended as a social studies book for the grades. It is a simple description of what happens to five children during a day in a somewhat idealized classroom in a poor section of a city. It is integrated, and the pictures of interaction between children of various backgrounds are beautifully done. Small group or picture book use only. (5)

Bulla, Clyde, *What Makes the Shadows?* School Book Service, N.Y.

Simple text, abstract illustrations, about what shadows are and how they are made. It could also be used in discussions of weather and astronomy (clouds makes shadows, nighttime is a shadow). (4-5)

Burton, Virginia Lee, *Katy and the Big Snow*. Houghton Mifflin.

Katy, the big snow plow shovels out the town of Geopolis following a big snowstorm. This book has little plot and sometimes will not hold the attention of a group. However, it is excellent for developing the concept of a town, and for helping children to pick out small details. (The picture showing a house burning may be frightening to some children, the teacher should be aware of this possibility.) (4-5)

____________, *Mike Mulligan and His Steam Shovel*. Houghton Mifflin.

A classic tale of how Mike Mulligan and his steam shovel Mary Anne dug the Popperville City Hall basement. Not a realistic story, but children love it. Concepts: community workers, times of day, seasons. Good for group reading. (4-5)

____________, *The Little House*. Houghton Mifflin.

The life story of a little house which started out in the country, was gradually engulfed by the city and moved back into the country. Good for the concept of the city, seasons, (the little house is shown in spring, summer, fall and winter from the same view), and for discussion of passage of time. Often fails to hold the interest of a group of children because there is relatively little action. Small group, picture book. (4-5)

Calhoun, Mary, *The Sweet Patootie Doll*. William Morrow.

The adventures of a doll made from a sweet potato; nice illustrations; can be read to a group. (4-5)

Carle, Eric, *The Secret Birthday Message*. Crowell.

A boy receives a secret message, part of which is drawn in symbols, about his hidden birthday present. The pages are cut like the shapes of the objects which serve as clues. Big bright, and cleverly done. Large groups. (3-5)

Carroll, Ruth, *Where's the Bunny?* Oxford University Press.

A very simple story in which a bunny hides from a puppy. Good for reading to very young children, and for usage of a number of prepositions. Also for spotting detail in pictures. Large group. (2-3)

____________, *Where's the Kitty?* Henry V. Walck.

Very similar to *Where's the Bunny?* and can be used for the same purposes. (2-3)

Carton, Lonie C., *Mommies*. Random House.

A very simple book illustrated in a childlike manner telling about what mommies do. There is a good picture of a child being comforted in a storm. Group or individual reading. (3-4)

Caudill, Rebecca, *Come Along*. Holt, Rinehart and Winston.

Japanese haiku poetry beautifully illustrated. To be read to a few children or a very mature group. (4-5)

Charlip, Remy. *Where Is Everybody?* William R. Scott. (Also Scholastic Book Services)

The book starts out with an empty sky, and one or two elements are added on each page. There is almost no text. It is good for discussion of line quality in that the simple drawings are all done two-dimensionally without perspective, and children enjoy describing what is happening in the pictures. Small group. (3-5)

Cleary, Beverly, *The Real Hole*. William Morrow.

Jimmy works hard to dig a hole, but does not know what to do with it. Finally his father brings home a tree and they plant it. Good for discussion of finishing a job and problem solving. Large group. (3-5)

Cohen, Miriam, *Will I Have a Friend?* Macmillan.

Jim starts to nursery school and is worried that he will not have a friend. Simple text and illustrations. Integrated. Large group. (3-5)

Cole, William, *I Went to the Animal Fair*. World Publishing.

This is a book of poetry about animals from a number of sources. The illustrations are simple pen and ink drawings, and the poetry is suitable for reading to small groups or for the teacher to memorize in order to repeat it to the children when appropriate. (3-5)

Conklin, Gladys, *I Caught a Lizard*. Holiday House.

A book that tells about how many animals and insects are caught, how to make a temporary home, how to care for, feed, etc., with emphasis on returning to nature. Mostly for reference--could read appropriate parts (simple language). (4-5)

___________, *If I Were a Bird.* Holiday House.

Tells what a little boy would do if he were a variety of different birds. (Music notations suggest sounds birds make.) Many interesting facts. (Use as *I Caught a Lizard.* Also by this author: *I Like Caterpillars, I Like Butterflies, I Like Bugs,* and others). (4-5)

Copeland, Helen, *Meet Miki Takino.* Lothrop, Lee & Shepard.

A Japanese-American boy is sad because he cannot invite his grandparents to a party at his school, but finds "honorary" grandparents. Discussion of cultural and family differences. Large group. (5)

Craig, Jean M., *Boxes.* Norton.

This book shows many different kinds of boxes used to hold many interesting things. It has ideas for using boxes creatively and nice illustrations. Integrated. No plot, but simple enough to read to a group. (4-5)

___________, *Spring Is Like the Morning.* Putnam.

Abstract illustrations and discussion of all the things that happen in the spring. Good as a picture book or reading parts to a few children, not enough action for a group. (3-5)

Croxford, Vera, *All Kinds of Animals.* Grosset & Dunlap.

An animal picture book with large bright illustrations which classifies animals by various characteristics such as where they live, what they eat, etc. Reference and picture book. (Out of print; try the library.) (4-5)

de Regniers, Beatrice Schenk, *A Little House of Your Own.* Harcourt, Brace.

This is a delightful discussion of a child's need for privacy, and all the ways in which he can find it, in a box, under a table, in an old coat, etc. Also teaches prepositions. Illustrations are very small and black and white. Better read to single child or two or three. (3-5)

___________, *The Shadow Book.* Harcourt, Brace & World, Inc.

Photographs of children and their shadows. No plot, nice for reading to a few children or one, or as a picture book. (3-5)

___________, *Something Special*. Harcourt, Brace, and Jovanovich.

A delightful collection of simple poetry used with small groups or individual children. (3-5)

Dunn, Phoebe and Tris, *Things*. Doubleday.

Very clear colored photographs of children doing things, with short poems as text. Large group. (2-5)

Ets, Marie Hall, *Gilberto and the Wind*. Viking.

Gilberto plays with his friend the wind. Good for the child who wants friends--also for weather concepts. Individual or group. (3-5)

___________, *Play with Me*. Viking.

A little girl wanted the animals to play with her, but found that they would not until she sat very quietly and let them approach her. Pictures lack contrast for group reading and the story often fails to hold group interest, but *good for individual reading* to children who worry about having friends. (4-5)

___________, *In the Forest* and *Another Day*. Viking. (Also Scholastic Books.)

Two fantasies about a little boy who goes for a walk in the woods and adds animal after animal to his parade. Pictures not too clear for group, but rhythmical text is delightful. Particularly good for discussion of fact-fantasy, since all the animals disappear when an adult appears. (4-5)

___________ and Labastida, Aurora, *Nine Days to Christmas*. Viking.

Unusual picture of the life of a middle-class Mexican preschooler and her celebration of Christmas. Detailed description of breaking the pinata. Excellent for cultural *similarities* and differences, but extraneous text must be cut drastically before reading to a group. (4-5)

Fatio, Louise, *The Happy Lion*, *The Happy Lion Roars*, *The Happy Lion in Africa*, and *The Happy Lion and the Bear*. McGraw-Hill.

Although these stories are obviously fantasy in that the lion is made to be an almost human character, they give something of the flavor of a small town in France where the happy lion lives in a zoo, and are also delightfully humorous. Large group. (4-5)

Fenton, Edward, *Fierce John.* Doubleday.

John decides to become a fierce lion but no one is afraid of him until he dresses up in a realistic costume. He has to prove he *is* John by eating nuts, candy and finally taking off his costume. Very good for a group. (4-5)

Fisher, Aileen, *In the Middle of the Night.* Crowell.

A little girl explores the nighttime with her father. Lovely pictures, but the text is overly long and lacks interest for most groups. Edit if reading to a group, or use with individuals. (3-5)

Flack, Marjorie, *Angus and the Cat* and *Angus Lost.* Doubleday.

Both of these books about Angus, a Scotty dog, are classics for very young children. *Angus and the Cat* is good for feelings about sibling rivalry, and *Angus Lost* for fears of being lost or alone in the dark. *Angus and the Cat* is also good for searching for detail. (Children can see the cat and Angus cannot.) Groups or individual. (2-4)

___________, *The New Pet.* Doubleday.

Dick and Judy get a new baby brother and watch him grow from birth to about one and one-half years. Somewhat stereotyped middle-class family and pastel illustrations. Good for reading to an individual or a small group of children who are interested in new babies. (4-5)

___________, *The Story About Ping.* Viking.

A classic story about a little duck named Ping who lived on the Yangtze River. Nice clear illustrations are good for introducing children to a foreign culture. Can be read to a group. (3-4)

___________, *The Restless Robin.* Houghton Mifflin.

This story about how robins make their nest and raise their young has a very detailed text and could best be used as a picture book or reference book for threes and fours. However, it might be read to fives who may be interested in the geographical concepts which are included. (The robins fly from Georgia to Boston and there are pictures of New York City, Boston, small villages, hills, mountains, etc.) In the latter half of the book there are pictures and illustrated songs of a number of common American birds. (3-5)

Foster, Willene, *Seeds Are Wonderful.* Melmont.

Illustrates parts of plants including usual and unusual seeds, what plants need to grow, and how seeds get planted by nature and man. Mostly for reference. (4-5)

Francoise, Jeanne, *Marie Counts Her Sheep* and *What Time Is It Jeanne-Marie?* Scribner's.

These two books about a little French girl are illustrated in a simple childlike style and seem to be very appealing to children. In the first she plans ahead how she will spend the money from selling the lambs she expects her pet sheep to have. (Numbers, daydreaming.) The second is a simple introduction to times of day. Large group. (3-4)

Funk, Tom, *I Read Signs.* Holiday House.

This book has no text, but consists of a series of pictures of a boy looking at signs in many different situations. The pictures are small, but clear, and there are many interesting things going on in each picture. Good for perception of detail and language production as well as early reading. Small group. (3-5)

Galdone, Paul, *Old Dame Trot and Her Comical Cat.* McGraw-Hill.

Large bright pictures illustrate this old folk rhyme. Children love its foolishness, good for talking about fact-fantasy and for auditory memory. Large group. (3-5)

Garelick, May, *Winter Birds.* Young Scott.

Very nice pastel illustrations, text tells about feeding birds in winter. There is not much plot, and it might serve best as a picture and resource book, unless a group of children was very much interested already in birds. (4-5)

____________, *Where Does the Butterfly Go When It Rains?* Young Scott.

This is a very simple rhythmical book which talks about the places animals go when it rains. The illustrations are monochromatic and impressionistic. It might be used for a group of mature children on a rainy day. (4-5)

____________, *What's Inside?* William R. Scott.

A photographic representation of a baby goose breaking out of its egg and then growing up. Good to use in connection with the hatching of chickens or other birds in the room. Read to mature group, otherwise use as a picture or reference book. (4-5)

Gill, Joan, *Hush, Jon.* Doubleday.

A boy finds a baby sister a nuisance, but later comes to like her after all. Black and white illustrations. Integrated. Small group. (4-5)

Glasgow, Aline, *Honschi.* Parents Magazine Press.

The life of a Japanese swallow and the dangers he encounters are shown in this beautifully illustrated book. The large illustrations are done in Japanese style. Large group. (4-5)

Green, Mary McBurney, *Everybody Has a House and Everybody Eats.* Young Scott.

Very simple schematic drawings. Good for reading to very young children. (2-3)

____________, *Is It Hard? Is It Easy?* Young Scott.

This very brief text illustrated with silhouettes makes the point that one child can do one thing and not something else, while the reverse may be true for a friend. Good for developing realistic feelings about self. Large group. (3-5)

Hader, Berta and Elmer, *The Big Snow.* Macmillan.

A story about what the animals do before and after the snow falls. The animals are treated realistically and the pictures are good for study about animals and winter. There is very little action in the story and only the most mature children will listen to it as a group. (4-5)

Hess, Lilo, *The Timid Sheep.* Crowell.

A timid sheep goes through many life experiences, shearing, giving birth, etc. Photographs are excellent. Reference or reading to a mature group. (4-5)

Hoban, Russell, *Bedtime for Frances, Bread and Jam for Frances, A Baby Sister for Frances,* and *A Birthday for Frances.* Harper & Row.

In this series a delightful little badger-girl and her very human family live through four problem situations, bedtime, food fads, a new baby, and sibling rivalry in a way which provides both fun and group discussion. Large group. (4-5)

Hoff, Sydney, *When Will It Snow?* Harper & Row.

A very small book with simple illustrations about a child who wants to use his new sled. Small group. (3-4)

Hopkins, Lee Bennett, *I Think I Saw a Snail.* Crown Publishers.

An excellent *poetry* collection concerning city life. Integrated. Small group. (4-5)

Huntington, Harriet, *Let's Go Outdoors, Let's Go to the Brook,* and *Let's Go to the Seashore.* Doubleday.

Beautiful photographs of animal and plant life. For reference or as picture books. (4-5)

Hutchins, Pat, *Changes, Changes.* Macmillan.

Clear bright pictures of two wooden dolls building with blocks. No text; use for encouraging children to see detail and to make up their own stories. Small group. (3-5)

Ilsey, Velma, *M Is for Moving.* Walck.

An illustrated alphabet story about a family moving in August and finally off with a zoom! in the family car. Useful primarily to get at feelings about moving which an individual or several of the children may have. Large group. (3-5)

Ipcar, Dahlov, *The Cat at Night.* Doubleday.

A cat spends his night out looking at what goes on. Dark toned pictures alternate with colored pictures showing how the cat sees things--perhaps questionable biologically, but good for reassurance about the night. Large group. (3-5)

____________, *Ten Big Farms.* Knopf.

A family wants to move out of the city to a farm and looks at ten different farms (each showing a different type of crop or animal raised) until they finally find one for sale that has something every one of the family members likes. Large group. (4-5)

Itse, Elizabeth, *Hey Bunny!* American Heritage.

Tiny detailed pictures of animals doing human-like things. Good for fact-fantasy and perception of detail with only one or two children. (4-5)

Iwasaki, Chihiro, *Staying Home Alone on a Rainy Day.* McGraw-Hill.

A little girl has feelings of loneliness when her mother goes to the store. Very impressionistic illustrations. Picture book or small group. (4-5)

Johnson, Crockett, *Harold and the Purple Crayon.* Harper & Row.

Harold, the cartoon character, draws with a magic purple crayon. Very simple and funny, good for discussion of fantasy and line quality. Groups. (3-5)

Kaufman, Joe, *What Makes It Go? What Makes It Work? What Makes It Fly? What Makes It Float?* Golden Press.

This book provides pictures and descriptions of the functioning of almost everything from a ballpoint pen to a skating rink. The illustrations are clear and simple, but the text is more at a teacher's level. Reference. (4-5)

Keats, Ezra Jack, *The Snowy Day* and *Whistle for Willie.* Viking. *Peter's Chair* and *A Letter to Amy.* Harper & Row.

Four wonderful books about Peter illustrated with very simple abstract pictures. Peter plays in the snow, learns to whistle, comes to accept a new baby, and has a birthday party. In *Hello Cat* and *Pet Show* Peter faces problems of friendship and sharing. Large group. (3-5)

Kesselman, Wendy, *Angelita.* Hill and Wang.

The story of a girl who comes to the United States from Puerto Rico and finds it hard to adjust. Illustrated with photographs, the story is quite long and involved, and would probably need to be read in two or three sessions, rather than all at once. (5)

Knight, Hilary, *Where's Wallace?* Harper & Row.

Wallace is a chimpanzee who is always running away and hiding. The fun comes from trying to find him in the very detailed pictures. Read to one or two children or use as picture book once children know the joke. (4-5)

Knotts, Howard, *The Winter Cat.* Harper & Row.

A quiet, comfortable story with simple black and white illustrations about a wild cat who accepts children and the home that they offer when winter comes. Small group. (3-5)

Krasilovsky, Phyllis, *The Very Little Girl* and *The Very Little Boy.* Doubleday.

These books describe a girl and a boy, respectively, who start out very small and gradually grow. Each ends with a new baby sister in the house. The illustrations for *The Very Little Girl* are in pastel and rather difficult to see at a distance. Those for *The Very Little Boy* are clearer. Small group. (3-5)

Krauss, Ruth, *The Carrot Seed.* Harper & Row or School Book Service, N.Y.

A little boy plants a carrot seed and produces an impossibly mammoth carrot. Use for concepts of fantasy and plants. (3-5)

___________, *The Growing Story.* Harper & Row.

(Good for seasons, size and measurement.) Nice illustrations. Little boy discovers he has grown when he tries to put on clothing he wore last season. Large group. (3-5)

___________, *The Backward Day.* Harper & Row.

A little boy goes through the day in a backward way. Simple and humorous--good for reading aloud to a large group. (3-5)

___________ and Johnson, Crockett, *Is This You?* School Book Service, N.Y.

A simple, funny book to get children to think about themselves and what they are really like. Good for groups. (3-5)

Lane, Carolyn, *The Voices of Greenwillow Pond.* Houghton Mifflin.

Freddy the Frog has to learn to sing in order to be in a concert in the swamp. Neither pictures nor story are particularly good, but because of the variety of sounds made by the various animals in the swamp, it is helpful for auditory discrimination. Small groups. (4-5)

Leaf, Munro, *The Story of Ferdinand.* Viking (also Scholastic).

The classic story of the bull who did not want to fight. Can be read to a group or used as a picture book. Large group. (3-5)

___________, *Wee Gillis.* Viking.

Scottish boy must make up his mind whether to live in Highlands or Lowlands. He solves the problem uniquely by living right in between. Good for discussion with group of problem solving and cultural differences. (4-5)

Lenski, Lois, *The Little Airplane, The Little Auto, The Little Farm, The Little Fire Engine, The Little Sailboat, The Little Train, Policeman Small, Cowboy Small, Spring Is Here, On a Sunny Day, It's Fall, I Like Winter, Papa Small, Let's Play House, The Little Family,* and *A Dog Came to School.* Walck.

This author has written a long series of small books about families, homes, farms, cars, etc. All are illustrated in simple two-dimensional form and are mostly descriptive narrations without much plot. Good as picture books or reading to a few children. *The Little Airplane* and *The Little Sailboat* are appropriate for fours and fives; all the others can also be used with threes.

Lindgren, Astrid, *The Children of Noisy Village.* Viking.

Beautifully illustrated translation of a Swedish classic, it gives children an idea of farm life in another country. All right for mature groups; big pictures, but not too much action. (4-5)

____________, *Of Course Polly Can Ride a Bike.* Follett.

Polly is a little girl who lives in a Swedish village and longs to ride a bicycle. Very clear, bright pictures and interesting story. Large group. (4-5)

Lionni, Leo, *Little Blue and Little Yellow.* Astor.

A very unusual book in which the characters are spots of color (concepts of color mixing). It is brief and holds a group well. (3-5)

____________, *Inch By Inch.* Astor. *Swimmy* and *Frederick.* Pantheon.

These three books are all similar in format. Very large bright pictures done in a "torn-paper" effect technique. *Inch By Inch* is the story of an inchworm who measures things, *Swimmy* is about a little black fish who saves his friends from being eaten, *Frederick* is a mouse who stores up words, colors, and sounds instead of food for the long dark winter. All good for group reading. (4-5)

MacDonald, Golden, *Red Light, Green Light.* Doubleday.

This very simple book with a rhythmical text is about the things that come out of their houses in the morning and return to their houses at night. A very comforting book about nighttime and home. Large group. (3-5)

____________, *Whistle for the Train.* Doubleday.

This is a poetic book about a little train and what it sees as it goes down the track. There is no real plot but it is a very good participation story for groups because of the rhythm, repetition, and simple illustrations. Good for immediate memory. (3-5)

Machetanz, Sara and Fred, *A Puppy Named Ghi*. Scribner.

A simple, beautifully illustrated book about the training of an Alaskan sled dog. Large group. (4-5)

Mannheim, Grete, *The Two Friends*. Knopf.

Two friends at school illustrated with good photographs. Integrated. A picture book for threes, read to older groups. (3-5)

Marino, Dorothy, *Goodbye Thunderstorm*. J. B. Lippincott.

The coming and passing of a thunderstorm as experienced by Davy who starts out by being afraid. Pictures are not too clear for reading to a group, but excellent for the child who is afraid of storms. (3-5)

McCloskey, Robert, *Blueberries for Sal*. Viking.

A really delightful story about a little girl and a little bear who go blueberry picking with their mothers. A good book to hold the attention of the group with large clear illustrations. (3-5)

____________, *One Morning in Maine*. Viking.

This story of a little girl in a summer vacation home in Maine tells about the loss of a first tooth and all the things that go along with it. Somewhat long for reading to a group but good for mature children. (4-5)

____________, *Make Way for Ducklings*. Viking.

Another classic with large illustrations about a family of ducks who live in Boston. Concepts of life in the city and seasons as well as animals. Large group. (3-5)

McGovern, Ann, *Black Is Beautiful*. Four Winds.

Black and white photographs with poetic text about all kinds of things which are black. Individual or small group. (3-5)

Merriam, Eve, *Andy All Year Round*. Funk & Wagnall.

Poetic illustrations and text emphasize a multi-sensory approach to the changing seasons. Small group. (4-5)

Meyer, Renate, *Hide and Seek*. Bradbury Press.

A picture book without text; the illustrations are colorful but obscure. Useful for figure-ground discrimination as children try to find the boy who is "hiding" in each picture. Small group. (4-5)

Minarik, Else Holmelund, *Little Bear, Little Bear's Friend,* and *Little Bear's Visit.* Harper & Row.

Little Bear and his family should be introduced to every child because of the sensitivity and warmth of the stories. *Little Bear* is particularly good for fact-fantasy discussions, *Little Bear's Friend* for feelings about making and losing friends, and *Little Bear's Visit* for relationships with grandparents. Children will enjoy the other Little Bear books, but these are the best. (4-5)

Mizumura, Kazue, *If I Were a Mother.* Crowell.

Very simple text, large beautiful drawings of mothers and babies. Read aloud or as a picture book. (3-5)

Molarsky, Osmond, *Right Thumb, Left Thumb.* Addison.

The story focuses on the problems of a boy who needs to know right from left in order to get to the store and back, but is also good for the themes of independence and responsibility. Clear, stylized illustrations. Large group. (4-5)

Morrow, Suzanne, *Inatuk's Friend.* Little, Brown.

Very simple, abstract illustrations go along with the story of an Eskimo boy whose family faces real problems of survival. A second theme is the meaning of friendship. Large group. (4-5)

Ness, Evaline, *Old Mother Hubbard and Her Dog.* Holt, Rinehart and Winston.

Another illustrated nursery verse with somewhat abstract illustrations. Similar to Galdone's *Old Dame Trot* already described. Large group. (3-5)

Parsons, Virginia, *Homes.* Garden City.

A very simple picture book illustrating where various animals and people live. Good illustrations for young children to find details and a good group response book for reading aloud. (Also in this series *Night, Snow, Rain.*) (2-3)

Payne, Emmy, *Katy No Pocket.* Houghton Mifflin.

This is a fantasy story about a kangaroo who did not have a pocket to carry her little boy in and the efforts that she went through to try to find a pocket. Concepts include city, country, carpenters, and animals. It is also an excellent story for discussion of fact and fantasy with children. Large group. (4-5)

Pfloog, Jan, *Wild Animals and Their Babies.* Golden Press.

A particularly beautifully illustrated picture book with very large pages. (3-5)

Piers, Helen, *Snail and Caterpillar.* American Heritage.

A chase and rescue involving a snail and a caterpillar. Useful primarily because a trail is laid through unclear colored pictures which can be traced for figure-ground discrimination. Can also provide a base for talking about helping friends. Small group or individual. (4-5)

Podendorf, Illa, *The True Book of Weeds and Wild Flowers.* Children's Press.

Good illustrations, very clear--could be easily used to identify weeds or wild flowers. Reference. (4-5)

Puner, Helen Walker, *Daddies, What They Do All Day.* Lothrop, Lee & Shepard.

This is a very simple story with large clear illustrations about what daddies do. It is particularly good because the daddies do a range of jobs from subway trainmen, truck driver, window washer to doctor and businessman. Large group. (3-5)

Raskin, Ellen, *Nothing Ever Happens on My Block.* Atheneum.

A very funny book in which a little boy sits on the curb wishing for something to happen while behind him all kinds of wild action is going on. Simple line drawings, excellent for perception of detail and language production, also good for beginning reading and auditory discrimination, since the action is accompanied by sound effects-type noises, printed in cartoon-like balloons. Small group. (4-5)

Reiss, John, *Numbers.* Bradbury Press.

A book of stylized, bright pictures for counting and number concepts. Different from many such books in that numbers from 10 to 100 (by tens) and up to 1,000 are also included. Large group. (3-5)

Ressner, Philip, *At Night.* Dutton.

Photographs of nighttime activities and scenes. Picture book or for discussion with a small group. (3-5)

Rey, H. A., *Curious George, Curious George Gets a Medal, Curious George Takes a Job, Curious George Flies a Kite*, and *Curious George Learns the Alphabet.* Houghton Mifflin.

Curious George books are something of a dilemma for the teacher in that George is a little monkey always getting into trouble because he is curious. The teacher, of course, is interested in having children learn that curiosity is a good rather than a bad thing. However the stories of Curious George are so delightful that the teacher will want to include them in the library, remembering to comment that curiosity only gets you into trouble if you do not think about what you are doing. Large group. (3-5)

In *Curious George Learns the Alphabet,* upper and lower case letters are shown in the form of animals or objects which start with the letter. Recommended only for children who have already shown interest in learning the alphabet. It is not suitable for reading to a group from beginning to end.

Rockwell, Anne and Harlow, *Machines.* Macmillan.

This is a very simple, very clear book of illustrations of such items as gears, ball bearings, pulleys. Reference. (3-5)

Rudolph, Marguerita, *Look At Me.* McGraw.

A simple book to help children think about body parts and their functions. Small groups. (3-5)

Schatz, Letta, *When Will My Birthday Be?* McGraw-Hill

A little boy's anticipation of the coming of his birthday is tied to changes of seasons through the changes in an apple tree near his home. Large group. (3-4)

Schick, Eleanor, *City In the Summer.* Macmillan.

A little boy spends summer in the hot city and longs for cool breeze and space to run. He goes to the beach with neighbor but is very happy to return home. Integrated. Can be read to a group. (4-5)

____________, *Making Friends.* MacMillan.

A book about making friends with many things other than people on way to park (no words, just illustrations). Interesting to use to elicit language from a group or use as a picture book. (3-5)

Schlein, Miriam, *Fast Is Not a Lady Bug*. William R. Scott.

A simple book about fast and slow things with schematic illustrations. Good for reading to children in connection with a discussion of speed. See also *Heavy Is a Hippopotamus* and *Shapes*, similar concept books. (4-5)

Schneider, Herman & Nina, *How Big Is Big*. William R. Scott.

A good book on relative size, including concept of microscopic life. Can be read to a large group of older children. (5)

____________, *Follow the Sunset*. Doubleday.

This is a long book with small, not very clear pictures; but it presents many useful concepts. It follows the setting sun around the world, describing the way in which many cultures get ready for night. In each case there is a nighttime song with music included. With thought on the part of the teacher this can be a very useful resource book, but it cannot usually be read to a group.

____________, *Let's Find Out, A Picture Science Book*. William R. Scott.

This is a good source book of science ideas for the nursery school. It is written for elementary school children to read themselves but the teacher will have many ideas of science experiments about heat, evaporation, air, etc. Reference, picture book. (4-5)

Schneider, Nina, *While Susie Sleeps*. William R. Scott.

While Susie sleeps people all over the city are doing nighttime jobs. This is good for children who have concerns about nighttime and also contains a few community worker concepts. (4-5)

Scott, Ann Herbert, *Sam*. McGraw-Hill.

A child who is always in trouble with his family (black, middle-class) because he gets in their way. At the end the family realize that he is being left out and find a special job for him to do. Good to read to a group. (3-5)

Selsam, Millicent, *Plenty of Fish*. Harper & Row.

An easy reader which tells how to care for fish and facts about them in story form. Read to a group or for reference. (5)

Seuss, Dr., *Horton Hatches the Egg*. Random House.

This fantasy of the elephant who hatched an egg is one of the best of Dr. Seuss' books. Not only does it have the typical Seuss rhythm and fantastic characters, but it also has far more of a plot than most of his books. Teachers differ in their feelings about Dr. Seuss, but children generally find this book delightful. Fairly long so can be read only to a group with a long attention span. (4-5)

____________, *And To Think That I Saw It on Mulberry Street*. Vanguard.

Another very good Dr. Seuss book for reading aloud, finding detail in pictures and discussing fact-fantasy. It is about a little boy who sees a horse and wagon and whose imagination elaborates on it step by step to a complete circus parade. Large group. (4-5)

Sharp, Elizabeth, *Simple Machines and How They Work*. Random House.

This is intended as an easy reader for older children but it is an excellent source book for the teacher who wants to discuss screws, wedges, pulleys, cranks, wheels, etc. with her children. Good illustrations and simple explanations that the teacher can modify for her own use.

Slobodkina, Esphyr, *Caps for Sale*. William R. Scott.

This classic story about the peddler whose caps are stolen by a tree full of monkeys is loved by every child. Teachers have found many ways of adapting the story for concepts of color, counting, and body parts. Some teachers have children act it out and others find it good for immediate memory practice. Large group. (3-5)

____________, *Pezzo the Peddler and the Circus Elephant*. Abelard-Schuman.

This story of the peddler is not so well written as the original, but will be a real find for teachers whose children have come to love the original *Caps for Sale* story. In this story Pezzo goes to the circus and finds a place for himself in the circus ring. The story is for somewhat older children than the original one, since there is more text and more complicated pictures. Large group. (4-5)

Sonneborn, Ruth A., *I Love Gram*. Viking.

The story of a little girl's relationship with her grandmother, her sorrow and fears while she in the hospital, and her happiness when the grandmother comes home. Simple, clear illustrations. Integrated. Large group. (4-5)

___________, *Friday Night Is Papa Night.* Viking.

The father of a Puerto Rican family must work away from home and can only return on weekends. The story describes the children's feelings and their hopes for the future. Large group. (4-5)

Spier, Peter, *The Erie Canal.* Doubleday.

A story about the life of a nineteenth century boy on the Erie Canal to help children understand the historical past, also interesting as part of a study of water and boats. Can be used with a group. (4-5)

___________, *Fast-Slow, High-Low.* Doubleday.

Pictures of many pairs of opposites are shown. Good for teaching concept of opposites or for beginning readers. However, pictures are too small and detailed to use with large group. (4-5)

___________, *Crash, Bang, Boom.* Doubleday.

Pictures illustrate a very wide variety of sounds. They are quite small and there is no story so that this book is better as a reference or to use with just a few children. (3-5)

Spilka, Arnold, *Paint All Kinds of Pictures.* Walck.

Some teachers will like this book, others will not. It illustrates the important idea that people can paint in many different ways--color, black and white, big or small depending on what they want to show and how they feel. Unfortunately the pictures look as though they were done by an adult trying to paint like a child. (4-5)

Stevenson, Eric, *Tony and the Toll Collector.* Little, Brown.

(community workers, money) A little boy hands the toll man a surprise one day--besides a quarter. The toll man has one for him when school starts. Can be read to a group. (4-5)

Stewart, Robert, *The Daddy Book.* American Heritage.

This book has no plot and the illustrations are disappointing, but it explores the whole topic of fathers far more thoroughly than other such books (what they wear, how they shave, etc.). It also encourages children to think about similarities between their own fathers and those in the book. (Use carefully if there are children without fathers in the group.) (3-5)

Sutherland, Efua, *Playtime in Africa.* Atheneum.

Black and white photographs of African children at play, illustrating short verses. Particularly good because it shows African children who are dressed like American children, playing the same kinds of games, as well as children in native dress doing unfamiliar things. Parts could be read to a group, but it is too long to read at one sitting. (4-5)

Thayer, Jane, *The Little House.* Morrow.

This story about a little old woman who lives alone, but opens her home to numerous travelers whose cars become stuck in the snow, is supposed to help teach set theory. Whether it does so is questionable, but it is a good, clearly illustrated story about snowstorms, helping others and the advantages of company vs. peace and privacy. Large group. (4-5)

Tresselt, Alvin.

All of Tresselt's books are similar in use and format. They are well illustrated picture books about nature, animals, farms, etc. None of them have any real plot and therefore do not hold the attention of most groups of children when read aloud. However, they are very good for children to look at individually as picture books or for reading to a mature group or to an individual child. The types of concepts for which they are used are listed below. (4-5)

Rain Drops Splash: rain, geography (stream, river, ocean, etc.)
Johnny Maple Leaf: changes in plants with the seasons
Wake Up Farm: farm animals
Autumn Harvest: fall, farm, animals, Thanksgiving, Halloween
Sun Up: times of day, weather, farm animals
Follow the Road: transportation, geography
I Saw the Sea Come In: beach, sea animals, tide
Follow the Wind: geography, wind, weather
White Snow, Bright Snow: seasons, snow, temperature
It's Time Now: cities (integrated)

(Most are published by Lathrop.)

Tudor, Tasha, *The County Fair.* Walck.

This is a tiny book with detailed illustrations telling a story about Sylvie Ann, a little farm girl of the 1800's. Other books about Sylvie Ann in similar format are *Pumpkin Moonshine, Alexander the Gander, Dorcus Porcus. Small* group. (4-5)

Turkle, Brinton, *The Sky Dog*. Viking.

A boy sees a dog in the clouds and then finds a real dog to match. Simple and brightly illustrated. Large group. (3-5)

___________, *Thy Friend Obadiah, Obadiah the Bold,* and *The Adventures of Obadiah*. Viking.

Obadiah is a Quaker boy who lived on Nantucket in the last century. These are extremely attractive books each of which revolves around some social-emotional concept as well as giving a vivid picture of early life in America (friendship and helping others, bravery and fear, and imagination, fact and fantasy). Large group. (4-5)

Udry, Janice May, *A Tree Is Nice*. Harper & Row.

A very simple book about why trees are nice. No plot but attractive enough to read to a group. (3-4)

___________, *Let's Be Enemies*. Harper & Row.

A little book about two children who have a fight and make up. Simple but children often find it very funny. Because of the small size of the illustrations it is better for a few children. (4-5)

Ungerer, Tomi, *Snail Where Are You?* Harper & Row.

Stylized drawings without text, each of which has hidden in it a spiral, reminiscent of a snail. Children enjoy finding the snails; an easy book for form discrimination. Small group. (3-5)

Victor, Joan Berg, *Sh-h Listen Again, Sounds of the Seasons*. World.

Sights and sounds of seasons in both town and country. Good for group use. (4-5)

Walpole, Ellen Wales, *The Golden Dictionary*. Golden Press.

Intended as a first dictionary for beginning readers, but younger children like to look through it at the small pictures. Useful also as a reference book (if a child asks what a word means). (4-5)

Williams, Gweneira, *Timid Timothy*. William R. Scott.

This is a classic story of a frightened little kitten who learns how to be brave. Simple attractive illustrations. Large group. (3-4)

Witte, Pat and Eve, *The Touch Me Book*. Golden Press.

This is a texture book for very young children, with illustrations that are made to be felt. In the nursery school it could be used on a one-to-one basis with a very immature child. (2-3)

Wright, Dare, *Look at a Colt*. Random House.

Good photographs of the life of a colt from birth on. Could be used with a mature group. (4-5)

____________, *The Little One*. Doubleday.

A fantasy about a doll who lives with two teddy bears, this book is illustrated with full-page photographs. Usually children are either very fond of this book and the similar series about *The Lonely Doll* or not interested at all. Therefore it may be better for reading to a smaller group. (3-5)

____________, *Look at a Gull*. Random House.

Beautiful photographs, but not much plot; use as a picture book unless children have seen real gulls and are interested in them. (4-5)

Yashima, Taro, *Umbrella*. Viking.

A delightfully written and illustrated book about a little Japanese-American girl who gets new boots and umbrella for her birthday and wears them to nursery school. Excellent as a bridge to help children understand the similarities and differences of the cultures that make up America. Contains Japanese characters with the translation, and a lovely rhythmic poem about the sound of rain. Large group. (3-5)

____________, *Crow Boy*. Viking.

A story about life in Japan which gives insight into a foreign culture and at the same time a sensitive description of the child who is different. May be used for group discussion by a mature group. (4-5)

Yashima, Mitsu and Taro, *Momo's Kitten*. Viking.

Momo adopts a stray kitten and cares for it and it eventually has kittens of its own. Momo is sad when the kittens must be given away. Concepts of birth, growing up, losing friends. (4-5)

Yezback, Steven, *Pumpkinseeds*. Bobbs-Merrill.

A very simple brief story about a boy who wants to share his pumpkinseeds, but no one will pay attention. Finally he is happy because he can share them with the pigeons. (3-5)

Ylla, *Polar Bear Brothers*. Harper & Row.

Excellent large photographs of polar bears at play in the zoo. Large group. (Other photographic books by this author are especially good as picture books for individual children.) (3-5)

Zaffo, George J., *The Big Book of Real Trucks*. Grosset & Dunlap.

All kinds of trucks (includes engine illustrations of how it works). Reference and picture book. Also see *Big Book of Real Trains*, *Big Book of Building and Wrecking Machines*, and *Book of Airplanes* for good reference sources. (Zaffo's Nursery Book series, intended for the preschool age are not nearly as well done.) (3-5)

Zion, Gene, *All Falling Down*. Harper & Row.

A simple book of pictures of all kinds of things which fall down, from rain to blocks. Good for a few children, but the pastel pictures are not strong enough for use with a large group. (3-5)

___________, *Hide and Seek Day*. Harper & Row.

Pictures and simple text about all kinds of things which hide from each other. Same artist as book above, but pictures are much clearer. Large group. (3-5)

___________, *Harry by the Sea*, *Harry and the Lady Next Door*, and *No Roses for Harry*. Harper & Row.

Harry is a spotted dog with a very human personality. Children find his adventures hilarious and the pictures and text are simple enough to read to a group. (Avoid *Harry, the Dirty Dog* in which Harry becomes a black dog and has to be washed to become himself again.) (4-5)

___________, *The Plant Sitter*. Harper & Row.

In the context of a story about a little boy who sat for plants for his neighbors when they were gone on vacation, children learn about how to care for plants. A good story for reading aloud to a large group. (4-5)

Zolotow, Charlotte, *Hold my Hand.* Harper & Row.

The beautiful colored pictures and poetic text evoke feelings about friendship and about the coming of winter, rather than really telling a story. Good for a small group or one or two children. (3-5)

____________, *Sleepy Book.* Harper & Row.

Simple abstract drawings on a dark background showing how various animals sleep. Difficult to see, so use with individual or a few children. (3-4)

____________, *The Sky Was Blue.* Harper & Row.

A little girl's mother tells her what it was like when she was young and when her grandmother was young. Very good for getting a picture of the continuity of life from one generation to another as well as the differences. Probably best for reading to a few children. (4-5)

There are also three series of books which teachers of young children should be aware of. Because of the large numbers, we have not listed them separately.

Your World Books. Taylor Publishing Company, Box 597, Dallas, Texas 75221.

These hardcover books, illustrated with large, clear color photographs, all have to do with visiting some institution such as a zoo, supermarket, school, or clothing factory. While all would make good resource books for a nursery school or kindergarten, the text varies in level depending on the place being visited. Write for a complete list or see advertisements frequently carried in *Young Children.*

Let's Read and Find Out Books. Thomas Y. Crowell.

This is a series of simple science books for the primary grades on topics ranging from fireflies to air. In the first version of *School Before Six* we recommended the total list, but have since found that the books vary markedly both in level and in quality, especially of illustrations. They are available in most school and children's libraries, so check out individually before ordering. They can be ordered through bookstores; some are also printed in paperback, and others in Spanish.

Bowmar Early Childhood Series. Bowmar Publishing Company, 622 Rodier Drive, Glendale, California 91201.

This series is primarily, though not entirely, concerned with social-emotional concepts. It is illustrated with large colorful photographs. Write for a list and order direct.

SOME SUGGESTED RECORDS AND THEIR USES

This list by no means exhausts good records which are available. These, however, are records which we have found most consistently useful.

Story Records

Good for listening or acting out are the following records available through music stores from Young People's Records:

The Carrot Seed. This story by Ruth Krauss about a little boy who grows a huge carrot appeals to children because of its rhythm, repetition and simplicity. Concepts of family members, roles and plant growth. Can be used with a flannelboard.

Little Gray Ponies. Good sound effects such as running water. Has repetition and illustrates qualities of movement and prepositions.

Little Indian Drum. Suspense-filled story. Some children become very attached to Red Fox whose father gives him a drum and shows him how to make it talk. Pleasant rhythm and repetition, as well as exciting plot. Good also for auditory discrimination, introduction to echoing own names using drum.

Muffin in the City and *Muffin in the Country.* Accurate sounds of familiar objects; good stories about a dog. Some children need to have pictures accompanying record. Children might put a "bandage" over their eyes or be in a box and listen for sounds like Muffin did.

Musical Mother Goose. Familiar nursery rhymes done with effective sounds. Soothing as a quiet activity. May be acted out.

My Playmate the Wind. Beautifully done for "feeling" the wind as a companion, sometimes gentle and other times not so gentle. Appropriate in cold weather and especially on a windy day. Many moods are introduced.

Train to the Farm, Train to the Zoo, Train to the Ranch. These records might be tied in with the actual experiences or use of pictures to accompany them. May be a starter for dramatic play and then record stopped.

Visit to My Little Friend. Qualities of movement on different days of the week. Run, skip, etc., "right to the door and knock."

Who Wants a Ride. Different kinds of transportation. Rhythmic, repetitious, fun.

Rhythm Band and Moving to Music Records

Dance, Sing, and Listen and the *Way Out Record for Children.* (Dimension 5 - Box 185, Kingsbridge Station, Bronx, New York 10463.)

Both of these records are excellent for spontaneous movement and for listening to a variety of musical experiences.

Basic Motor and Ball Skills. (Bowmar Records, Inc., 622 Rodier Drive, Glendale, California 91201.)

This record introduces basic rhythmic activities with excellent musical background. It is quite structured in its layout, but can be used in a variety of your own creations.

My Playful Scarf. (The Children's Record Guild.)

Dramatic play with scarves set to music and a minimal amount of narration.

Let's All Join In. (CLP Mercury.)

A good record of dances such as the "Hokey-Pokey" and "Bunny Hop."

Music for Exceptional Children, Records #1 and #2. (Also Music Book to use with them.)

Songs played and sung to be accompanied by children on rhythm band instruments. Good for use with any group of young children, not just exceptional children. Order from Children's Music Center, 5373 W. Pico Blvd., Los Angeles, California 90019.

Popular and Folk Tunes for Rhythmic Movement. (Hector Records, Waldwick, N. J. 07463.)

Music for dancing and rhythms plus an idea booklet.

Records to Sing With

Burl Ives Sings for Fun. (Decca Records DL-8248), and *Burl Ives, The Best of Burl's for Boys and Girls.* (Decca Records DL-4390).

Two very good assortments of folk music for listening or singing along.

Songs to Grow On. (Folkways Records, Album No. FC-7005, 165 W. 46th Street, New York, New York.)

Sung by Woody Guthrie, this is a collection of nursery songs that the little ones love. For example, "Put Your Finger in the Air," "Don't Push Me." It can be used for singing along or listening.

Holiday. (RCA Victor LY-101.)

Told and sung by Tom Glazer. Music for holidays.

Let's Learn to Sing. Vol. I and II by Robert B. Smith. (Let's Learn, Station A, Champaign, Illinois.)

A good repertory of songs for the preschooler and presents a kind of programmed approach to learning songs which may be helpful for the teacher who is unsure of herself.

Counting Games: Rhythms, This Is Rhythm, and *I'll Sing a Song and You Sing a Song.* (Folkways Records, FC-7056.)

Sung by Ella Jenkins. Introduces suitable activities but just listening to Ella Jenkins is a delight in itself.

BIBLIOGRAPHY FOR THE TEACHER

Only a few of the hundreds of books available for teachers are listed here. We tried to choose those which supplement the material in this book and which would be useful to meet a variety of needs. At the time of printing all of these books were still in print.

Curriculum

Art

Wankelman, Willard, et al., *A Handbook of Arts and Crafts.* William C. Brown, 1968 (paperback).

This well illustrated book serves as a source of art techniques for the teacher, who can adapt them for use by preschoolers.

Foods

Cobb, Vicki, *Science Experiments You Can Eat.* Lippincott (paperback).

Somewhat more advanced cooking projects and science concepts than we have presented in our section on foods. Good for the kindergarten teacher who wants to take the next steps in these areas.

Paul, Aileen and Hawkins, Arthur, *Kids Cooking: A First Cookbook for Children.* Simon and Schuster, 1971 (paperback).

Simple recipes and great ideas for classroom cooking.

RAEYC Children's Cookbook. Available from Mrs. W. L. Vick, 2358 Baird Rd., Penfield, New York 14526.

This is a book of picture recipes in a large format with stiff pages which can be used directly with children in planning and carrying out cooking projects. It is published by the Rochester chapter of the Association for the Education of Young Children.

Language

Arbuthnot, May Hill, *Time for Poetry*. Scott Foresman, 1967.

A source book of poetry for kindergarteners and mature nursery school children with a large number of poems on many topics.

Geismer, Barbara P., *Very Young Verses*. Houghton Mifflin, 1945.

A collection of verses and rhymes for threes and fours.

Grayson, Marion, *Let's Do Fingerplays*. Luce, 1967.

A good, illustrated collection of finger plays for young children.

Lee, Doris M. and Allen, R. V., *Learning to Read Through Experience*. Appleton-Century-Crofts, 1963 (paperback).

A good introduction to informal and motivating approaches to reading for the kindergarten teacher who has some children ready for reading (though written originally for first grade teachers).

Scott, Louise B. and Thompson, Jesse J., *Rhymes for Fingers and Flannelboards*. McGraw-Hill, 1960.

A good selection of finger plays and other rhymes for preschool and kindergarten.

Music and Dance

Aronoff, Frances Webber, *Music and Young Children*. Holt, Rinehart and Winston, 1969.

Good for the teacher with musical background who would like an advanced source of suggestions in all areas of musical expression.

Cherry, Clare, *Creative Movement for the Developing Child*. Fearon Publishers, 2165 Park Blvd., Palo Alto, California 94306 (paperback).

An excellent source of very creative ideas.

Panabaker, Lucille, *Song Book*. Belford Book Co., 35 Britain St., Toronto 5, Canada.

An excellent songbook with suggestions for use in the preschool. On heavy stock, spiral bound.

Seeger, Ruth, *American Folk Songs for Children.* Doubleday.

An almost essential songbook for the nursery school.

Science

Guthrie, E., *Home Book of Animal Care.* Harper & Row, 1966.

Intended to be read by older children, this is an excellent source of practical information for teachers about the needs of all kinds of animals which might "live" at a nursery school.

McGavrack, John and LaSalle, Donald, *Guppies, Bubbles and Vibrating Objects.* John Day, 1969.

A source book for teachers in basic science, also contains an extensive bibliography and visual aid materials.

The *Nuffield Junior Science* series, including *Animals and Plants,* and *Teacher's Guide I.* Collins Press, London.

Each of these books serves as a source of information and curriculum ideas for the teacher of young children.

General

Carson, Rachel, *Sense of Wonder.* Harper & Row, 1956 (paperback).

A source of inspiration for the teacher who is trying to help children become sensitive to the world around them.

Hymes, Jimmy, *Teaching the Child Under Six.* Merrill, 1968 (paperback).

A clearly and simply written discussion of a philosophy of education very similar to that presented in this book. Helpful to a teacher who is still working on her own philosophy, or who wants to give assistants or parents an introduction to this philosophical approach to the education of young children.

Murphy, Lois B., and Leeper, Ethel M., *Caring for Children.*

A series of five pamphlets published by the Office of Child Development and available singly or as a group from the Superintendent of Documents at 45¢ each. (See end of Bibliography for address.) Very simply written and well illustrated, these pamphlets are particularly good for use with parents, volunteers, and aides. We disagree with some of their conclusions on sex-typing, masturbation, and competition among children, but otherwise found them an excellent resource.

The Ways Children Learn. Goals and materials of the preschool, similar to Chapter 2 in this book. (OCD-72-15)

More Than a Teacher. The role of teacher, emphasizing social-emotional aspects. (OCD-73-1027)

Preparing for Change. Helping children adjust to problems and transitions. (OCD-73-1028)

Away from Bedlam. Setting up routines and avoiding problems in the classroom. (OCD-73-1029)

The Vulnerable Child. Help for the handicapped child with emphasis on need to look at each as an individual, and to help with fears. (OCD-72-19)

Read, Katherine, *Nursery School: A Human Relations Laboratory.* Saunders, 1971.

One of the very best of "nursery school manuals," with much practical information, but an emphasis on the social-emotional and interpersonal aspects of the teacher's role.

Van Witsen, Betty, *Perceptual Training Activities Handbook.* Teachers College Press, Columbia, 1968 (paperback).

Descriptions of activities for perceptual-motor development (not all suitable for preschoolers).

Parent Involvement

Ferreira, Nancy J., *The Mother-Child Cookbook.* Pacific Coast Publications, Menlo Park, California 94023, 1969.

Good to recommend to parents who want to try cooking projects at home.

Ginott, Haim, *Between Parent and Child.* Avon, 1965 (paperback).

Already a classic, this book may serve as a resource for the teacher in discussing child rearing and discipline with parents, or may be read by parents.

Gregg, Elizabeth M. and Members of Boston Children's Medical Center, *What To Do When "There's Nothing To Do."* Dell (paperback).

Many ideas for projects and activities which children can do at home, educational but also fun.

Parents as Resources Project, *Recipes for Fun, Activities for Young Children.*

Educational projects which can be done at home. Available in Spanish. Also available, a workshop guide for use with it. Order through DCCDC, see address at end of Bibliography.

Sharp, Evelyn, *Thinking Is Child's Play.* Avon, 1969.

An explanation of Piaget's theory for parents, with 18 games to teach classification, seriation, and conservation. Explanation is at the level of college educated parents. The games are well done and the author cautions frequently about the need to keep activities fun and avoid failure feelings.

Taylor, Katharine Whiteside, *Parents and Children Learn Together.* Columbia University Teachers College Press, 1967 (paperback).

Although slanted toward parents who are involved in cooperative nursery schools, this book would be useful for any parent who wants to know more about nursery schools or for teachers who want help in interpreting programs to parents. Very complete.

Planning the Classroom and the Play Yard

Kritschevsky, Sybil, *Planning Environments for Young Children.* N.A.E.Y.C. (See end of Bibliography for address), 1969.

A discussion of the various factors which should be considered in planning a classroom or a playground, with a section to help the teacher analyze and rearrange her own classroom.

EFL, *Patterns for Designing Children's Centers.* Educational Foundations Laboratory, 477 Madison Ave., New York, New York 10022.

This book offers many excellent ideas for the designing of environments for children, but its language, format, and drawings all tend to make it difficult reading.

Hartwood, Lady Allen of (or Allen, Marjorie), *Planning for Play.* M.I.T. Press, 1969.

Creative examples and discussion of parks and playgrounds, mostly in England and Europe. It contains a section on planning playgrounds for the handicapped.

Kingsbury, John, *Common Poisonous Plants*. Cornell Extension Publication 538 .

Order from Research Park Mailing Room, Cornell University, Ithaca, New York 14850. A pamphlet which is essential to avoid use of poisonous plants in playground planting or picking of dangerous plants on nature walks.

Organizations

Below are listed three organizations which publish materials useful for teachers. There are also special benefits for those becoming members.

Day Care and Child Development Council of America (DCCDC), 1401 K. St. NW, Washington, D.C. 20005.

This is a new and very active group which seeks to provide better child care through giving information to people in the field, by helping local groups to organize, and through direct political action. It publishes some materials but also serves as a clearing house and sales center for materials on all aspects of early childhood education from a variety of sources. Members receive a regular list of publications available plus a regular newsletter, but anyone may buy from them. While the focus is on day care, teachers of half-day centers will find much that is helpful.

National Association for the Education of Young Children (NAEYC), 1834 Connecticut Ave. NW, Washington, D.C. 20009.

An old organization in the field of "nursery education," NAEYC has been revitalized in recent years to become the major voice for early childhood educators. Many communities have active local chapters. Members receive the journal *Young Children* published bimonthly, but nonmembers may subscribe. This journal contains a range of articles, from practical classroom suggestions to theoretical articles, plus book reviews and other useful features. It is beautifully illustrated with photographs of children. NAEYC also publishes a variety of paperbound books and pamphlets which may be ordered directly from them.

National Wildlife Federation, 1412 16th St. NW, Washington, D.C. 20036.

This group publishes two magazines of interest, *Ranger Rick* for children and *National Wildlife*, an excellent source for teachers. Both are illustrated with beautiful color pictures which will be treasured for the picture file.

Other Sources of Information

ERIC/ECE publications (research oriented papers and useful bibliographies) are now distributed by University of Illinois Curriculum Laboratory, 1210 West Springfield, Urbana, Illinois 61801.

U.S. government publications from the Office of Child Development cover a range of practical topics and include many inexpensive paperbacks of particular help to parents. Order from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

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